


# Open Science, Open Access: cosa succede in Europa

Elena Giglia



Ancona, 24 maggio 2019

[elena.giglia@unito.it](mailto:elena.giglia@unito.it)



Perché siamo qui

SE NON SI RAGIONA SUL  
REALE VALORE E IL POTENZIALE TRASFORMATIVO  
DELLA OPEN SCIENCE, LA VEDRETE SOLO COME  
UN ENNESIMO FARDELLO AMMINISTRATIVO

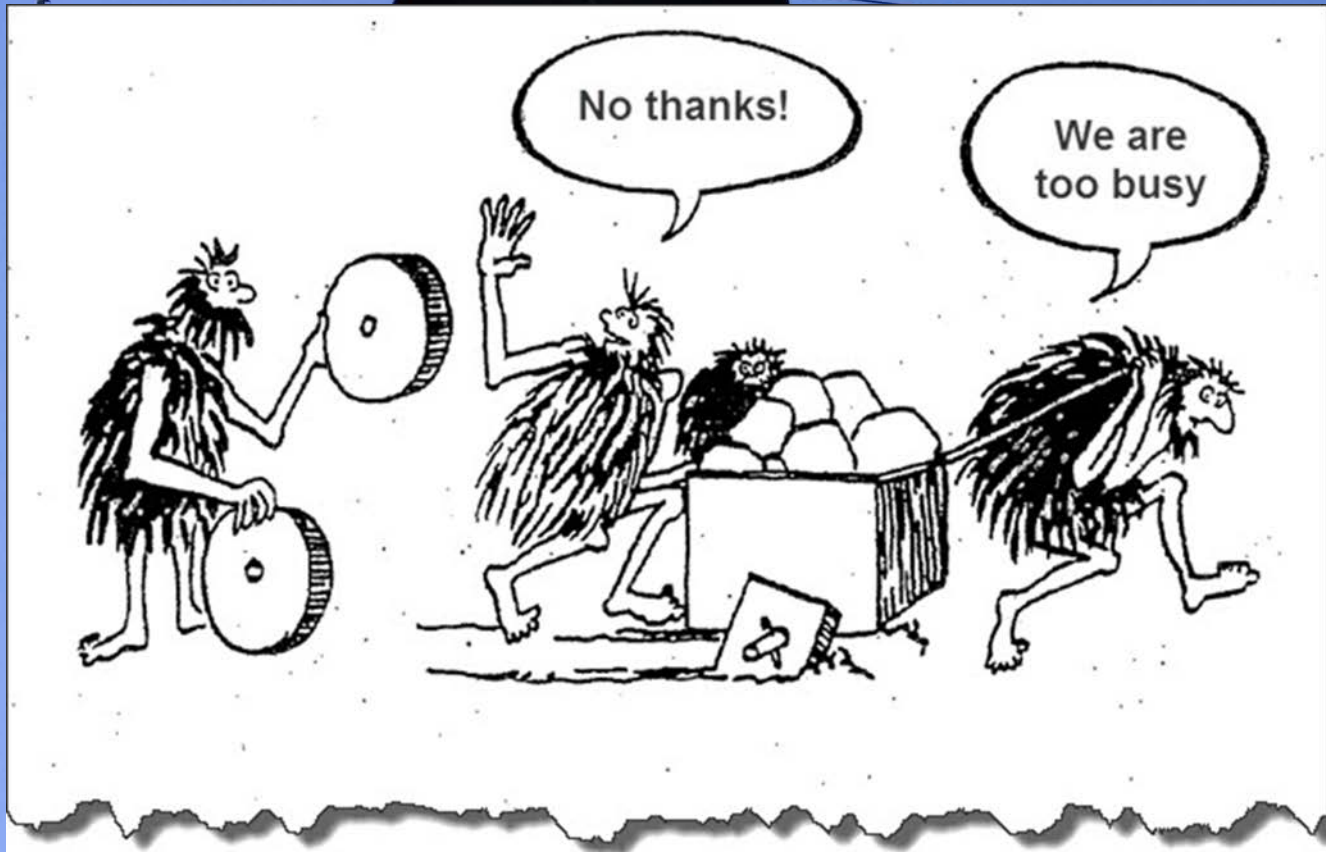
In così poco tempo possiamo solo dare messaggi-chiave

- sul sistema attuale e le sue storture
- sull'alternativa Open, PlanS, transformative agreements
- sui servizi offerti da OpenAIRE/RDA

... ma siamo a disposizione per corsi più lunghi nei vostri enti!



# Perché siamo qui



Three golden retriever puppies are sitting on a red tiled floor. The puppy on the left is looking towards the camera. The middle puppy is looking slightly to the right. The puppy on the right is looking towards the camera. The text "...occhi nuovi" is overlaid in the top left corner.

...occhi nuovi

...proviamo per oggi a vedere la ricerca e la comunicazione scientifica in modo diverso...

...e a cercare di cogliere le vere opportunità della Open Science, che NON è un ennesimo fardello amministrativo...



Una domanda



PERCHÉ FATE RICERCA?



# Qualcosa da portare via

Open Access/Open Science è un'opportunità,  
non una minaccia



Jon Tennant ✓  
@Protohedgehog

Following

My first talk of the year! Message is going to be that the opposite of 'open science' isn't 'closed science' - it's bad science.

...il contrario di Open Science è  
«Bad Science», non «Closed Science»

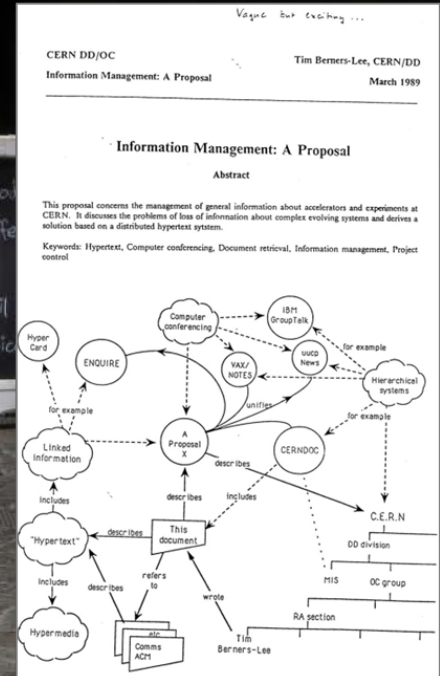
...fare Open Access e farlo correttamente è molto semplice...

...si può fare Open Access nonostante VQR, ASN...

...si può fare Open Science a piccoli passi, non «tutto e subito»

Open Science, Open Innovation, EOSC, FAIR data: un must





...il migliore esempio di Open Science?





# Comunicazione scientifica è ...

Accesso

CONSERVAZIONE

GESTIONE DEI DIRITTI  
(autori, lettori,  
editori)

Produzione

Economia  
(e profitti)

Costi

(reali e di mercato – «anelastico»)

Tecnologia

Nuovi modelli  
(e loro sostenibilità)

Canali  
(monografie, riviste...)

VALUTAZIONE  
DELLA RICERCA



# Il meccanismo nelle riviste



Submission

Peer review

Acceptance/  
rejection

Publication

non c'è compenso  
economico

...ritorno  
atteso:  
reputazione,  
citazioni



# ... comunicazione scientifica,

IN EUROPA 726 MILIONI (sottostimato)  
GLOBALE 7,6 MILIARDI (2016)

## Key figures on Big Deals costs:

- At least 1.025 billion euros are spent overall, every year in electronic resources (including periodicals and e-books) by 31 consortia surveyed in 30 European countries.
- Periodicals alone account for 726 million euros per year across all consortia. 72% of these costs are borne from university budgets.
- 475 million euros per year are spent in periodical Big Deal contracts with five of the largest publishers (Elsevier, Springer Nature, Taylor & Francis, Wiley, American Chemical Society).
- Contracts with the largest five publishers are subject to an average annual cost increase of 3.6%.

## current operating numbers per year

### Global view



<http://goo.gl/gMoKke>

Disrupting the subscription journals' business model for the necessary large-scale transformation to open access

A Max Planck Digital Library Open Access Policy White Paper

... paghiamo gli editori commerciali perché mettano sotto chiave il nostro contenuto...





Jon Tennant   
@Protohedgehog

Following 

The smartest business model ever. Have all of your products and services performed for free by researchers, and then sell it back to them with an unholy markup. Try describing the model to a non-researcher, and they mock us for falling for it.

<https://twitter.com/Protohedgehog/status/985439318897410048>

Steven Salzberg @StevenSalzberg1

Nature and other Springer journals make all of their money from free labor provided by scientists, who write all the papers and do all of the peer review. And now they are cashing in: "Springer Nature aims to raise 1.2 billion euros in new money in IPO" [reut.rs/2qqhp93](http://reut.rs/2qqhp93)



**For researchers, it's like going to a restaurant, bringing all of your own ingredients, cooking the meal yourself, and then being charged \$40 for a waiter to bring it out on a plate for you.**

You are the provider, the product, and the consumer.  
Jon Tennant, Open Science: just science done right, Sept.



**WHY SHOULD YOU PAY TO READ THEM ?**

[www.plos.org](http://www.plos.org)



# Accesso?



12 marzo: Thomson Reuters, Elsevier, Nature mettono a disposizione gratuitamente i dati e le pubblicazioni su contaminazione nucleare

...che fino al 10 marzo erano chiuse dietro abbonamenti a riviste che nemmeno Harvard può più permettersi...



**Joanne Kamens** ✓  
@JKamens

Segui

In risposta a @jasonpriem e @unpaywall

and btw the "everyone who needs it has access" is completely wrong. I have worked in small biotechs for the last 10 years and hit frustrating paywalls EVERY DAY trying to do good science.

Traduci dalla lingua originale: inglese

15:14 - 4 gen 2018

<https://twitter.com/JKamens/status/948920680590004224>

A screenshot of the Harvard University website. The top left features the Harvard University crest and logo. Below it, the text "THE HARVARD LIBRARY" is displayed in a red banner. The main content area is titled "Faculty Advisory Council Memorandum on Journal Pricing". To the left of the main text is a "News Archive" sidebar with several items listed. The main text includes a sub-heading "Major Periodical Subscriptions Cannot Be Sustained" and a detailed paragraph explaining the financial challenges facing the Harvard Library. The text mentions that the annual cost for journals from certain providers has increased significantly, reaching \$3.75M in 2010, which is a substantial portion of the library's budget. It also notes that these costs are not covered by subscription fees, which are often lower than the actual cost of the journals. The text concludes by stating that these journals are therefore not sustainable for the library.



# ... se no, non esisterebbe Sci-Hub



Science Home News

## Who's downloading pirated papers?

# EVERYONE

In rich and poor countries, researchers turn to the Sci-Hub website.

<http://www.sciencemag.org/news/2016/04/whos-downloading-pi>

Scientific publishing is a rip-off. We fund the research - it should be free

*George Monbiot*



outrageous legacy. In the meantime, as a matter of principle, do not pay a penny to read an academic article. The ethical choice is to read the stolen material published by Sci-Hub.

Higher Education Network

## Scientists should be solving problems, not struggling to access journals

It takes an average of 15 clicks for a researcher to find and access a journal article. This time could be much better spent

*Benjamin Kaube*

Mon 21 May 2018 07:30 BST

May 21, 2018



**Bernard Rentier**

@bernardrentier

Following

The single fact that providing free information on universal Science is illegal tells us a lot about how absurd it has become, in the Internet era, to rely on the old research publication model. [#FreeOpenAccessNow](#)

**Jon Tennant** @Protohedgehog

Oh wow. Looks like anyone can now create their own @sci\_hub mirror [github.com/bsidio/sci-hub](https://github.com/bsidio/sci-hub) You can use this to help accelerate research and society by providing free access to millions of research articles. But it's probably illegal, so don't do it.

Traduci il Tweet

08:37 - 10 mag 2018

March 10, 2018



# [come ottenere il pdf se non avete abbonamento]

## HOW TO GET THE PDF?

Alternatives to the publisher version of full-text journal articles

updated: February 20, 2018

- 1 UNPAYWALL**  
Get full-text of research papers as you browse, using Unpaywall's index of 10 million legal, open access articles. For CHROME | Firefox  
<http://unpaywall.org/>  

- 2 GOOGLE SCHOLAR BUTTON**  
Easy access to Google Scholar from any web page. Find full-text on the web or in your university library. Select the title of the paper on the page you're reading, and click the Scholar button to find it. for CHROME | Firefox  
<https://addons.mozilla.org/en-US/firefox/addon/google-scholar-button/>  

- 3 KOPERNIO**  
Get instant notifications of available versions from your library or otherwise. Promising features like a personal Locker, saved articles and more.  
<https://kopernio.com/>  

- 4 OPEN ACCESS BUTTON**  
Free, legal research articles and data delivered instantly or automatically requested from authors. You can do this from the website, or install a browser extension/API.  
<https://openaccessbutton.org/>  

- 5 HASHTAG #ICANHAZPDF**  
Use the hashtag #icanhazpdf together with a link to the requested publication; if somebody has access, they can send you the PDF.  
<https://twitter.com/search?q=%23icanhazpdf>  


## HOW TO GET THE PDF?

Alternatives to the publisher version of full-text journal articles

- 8 NARCIS**  
NARCIS provides access to scientific information, including open access publications from the repositories of all the Dutch universities, KNAW, NWO and a number of research institutes, datasets from some data archives as well as descriptions of research projects, researchers and research institutes.  
<http://www.narcis.nl/>
- 9 OSF PREPRINTS**  
OSF offers access to over 2 million open access preprints.  
<https://osf.io/preprints/>
- 10 DIRECTORY OF OPEN ACCESS JOURNALS**  
DOAJ offers access to over 10,000 open access journals.  
<https://doaj.org/>
- 11 SCIENCE OPEN**  
Science Open contains over 37 million articles, a large part in open access.  
<http://www.scienceopen.com/>
- 12 SCI-HUB**  
If all else fails, you may be tempted to use Sci-Hub. Do realize, however, that in many countries, including The Netherlands, the use of Sci-Hub is considered as an illegal act, as it involves content protected by copyright laws and licensing contracts.

open access.nl News and events What is open access? In the Netherlands You

### Alternative ways to access journal articles

Feb. 27, 2018

unpaywall

## Unpaywall ovviamente funziona SOLO se l'autore ha depositato

An open database of 17.025.907 free scholarly articles.

We harvest Open Access content from over 50,000 publishers and repositories, and make it easy to find, track, and use.

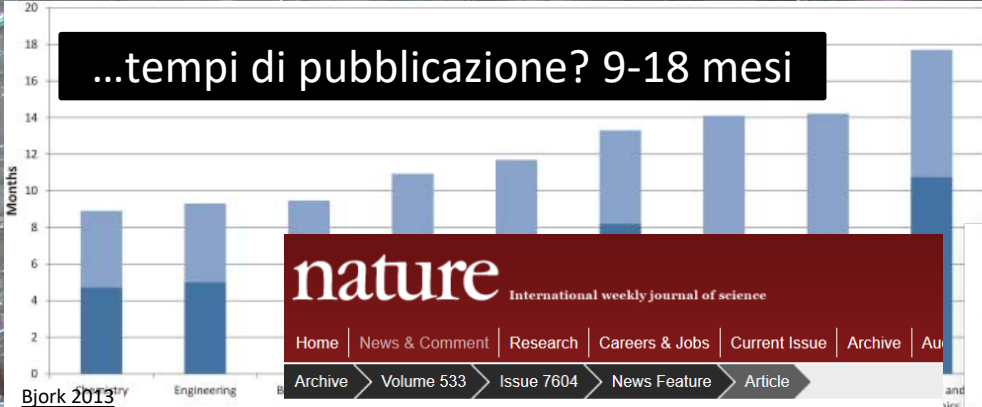
LEARN MORE GET THE EXTENSION





# ...funziona?

...tempi di pubblicazione? 9-18 mesi



NATURE | NEWS FEATURE

## 1,500 scientists lift the lid on reproducibility

Survey sheds light

Monya Baker

25 May 2016 | Cor

...crisi della  
riproducibilità

Tweet

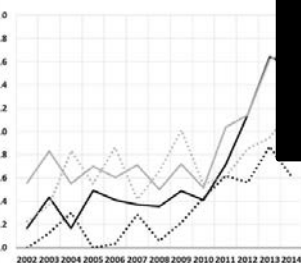


Jelte Wicherts  
@JelteWicherts

March 2018

Gaming the system: When in 2010 Italian universities incorporated citations in promotion decisions, self-citation rates among social scientists went up by 81-179%  
[sciencedirect.com/science/articl...](http://sciencedirect.com/science/articl...)

...autocitazioni  
+179%



ARTICLE INFO

Keywords  
Peer production  
Incentives to science  
Researcher  
Background of science  
Economics of science

ABSTRACT

There is limited knowledge on the extent to which questionable practices, namely practices that increase the number of citations, are used in self-citations. We test the hypothesis in the hypothesis to be a national habilitation exam required. The sample includes 800 scientists

## Harvard chiede il ritiro di 31 pubblicazioni del noto cardiologo Piero Anversa

Oct. 16, 2018

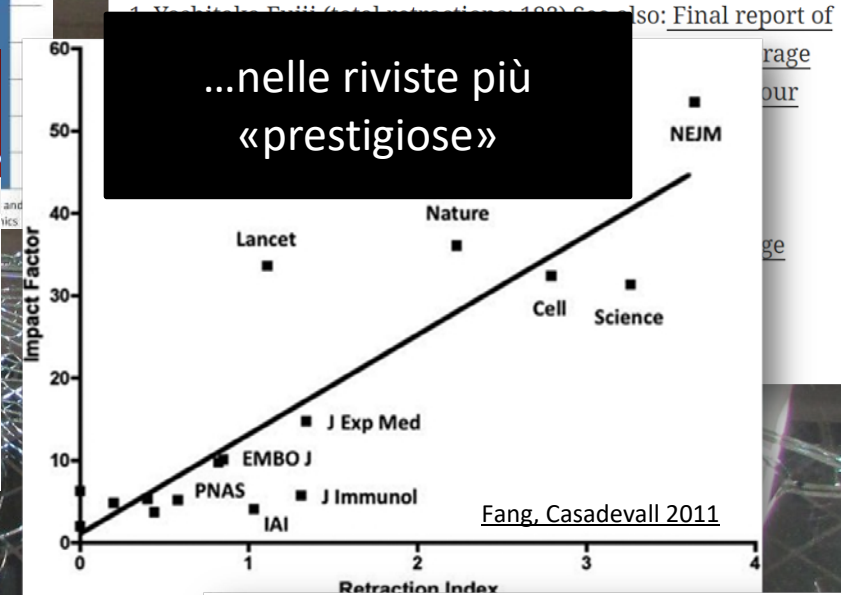
Contengono dati falsificati e/o inventati, come riferiscono la Harvard Medical School e il Brigham and Women's Hospital di Boston. Gli studi sotto accusa riguardano la possibilità - dimostrata falsa - di utilizzare le staminali per rigenerare il cuore



Foto: Brigham and Women's Hospital, Piero Anversa, M.D.

## The Retraction Watch Leaderboard

...crescente numero di ritrattazioni per dati falsificati o fabbricati



## Does scientific misconduct do more harm? The case of Boldt

the real-life effects note that some of the tiny obscure leads. But a new meta- JAMA today suggests

JAMA





# ...una parentesi sulle ritrattazioni?

## Does scientific misconduct cause patient harm? The case of Joachim Boldt

If you wanted to minimize the real-life effects of misconduct, you might note that some of the retractions we cover are in tiny obscure journals hardly anyone reads. But a meta-analysis and editorial in JAMA today



NCBI Resources How To

PubMed.gov PubMed

**RETRACTED ARTICLE**

See: [Retraction Notice](#)

Anesth Analg. 1996 Aug;83(2):254-61.

**The effects of albumin versus hydroxyethyl starch solution on cardiorespiratory and circulatory variables in critically ill patients.**

Boldt J<sup>1</sup>, Heesen M, Müller M, Pabsdorf M, Hempelmann G.

2013

*After exclusion of the studies by Boldt et al, Zarychanski et al found that hydroxyethyl starch was associated with a significantly increased risk of mortality (risk ratio [RR], 1.09; 95% CI, 1.02-1.17) and renal failure (RR, 1.27; 95% CI 1.09-1.47).*

In other words, there was an increased risk of circulatory failure among those given HES:

*The report by Zarychanski et al highlights an important and adverse effect of scientific misconduct*

97 ritrattazioni.  
Se si escludono questi studi, la revisione sistematica mostra un aumentato rischio di morte e problemi ai reni

## No academic post for fraudster Diederik Stapel, after all

Recently, we reported that social psychologist and renowned data faker Diederik Stapel had found himself a new gig supporting research at

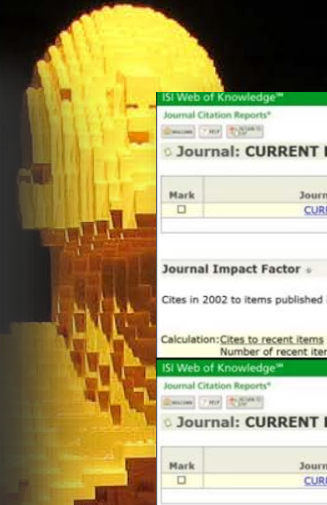


Scoperto da un PhD che ha chiesto i dati originali

De Telegraaf: [Continue reading](#) →



# ... e la valutazione? «Osessione»



“Not only are we failing to provide the right incentives, we are actually providing perverse ones.”

As long as journal impact factors retain some role in the career development, journals should publish the distribution of their citations. The participants strongly supported the adoption of the San Francisco Declaration on Research Assessment (DORA) by publishers.

There was a call having to rely on



**ROARS**  
 Return On Academic Research

ROARS 28 marzo 2018

Impact or perish. L'ossessione per l'impatto delle pubblicazioni scientifiche genera frodi e condotte abusive

ISI Web of Knowledge®  
 Journal Citation Reports®  
 2002 CR Science Edition

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
<input type="checkbox"/>	CURR BIOL	0960-9822	20020	7.007	2.713	341	3.5	3.7

Journal Impact Factor

Cites in 2002 to items published in: 2001 = 3314  
 2000 = 3917  
 Sum: 7231

Number of items published in: 2001 = 528  
 2000 = 504  
 Sum: 1032

Calculation: Cites to recent items / Number of recent items = 7.007

ISI Web of Knowledge®  
 Journal Citation Reports®  
 2003 CR Science Edition

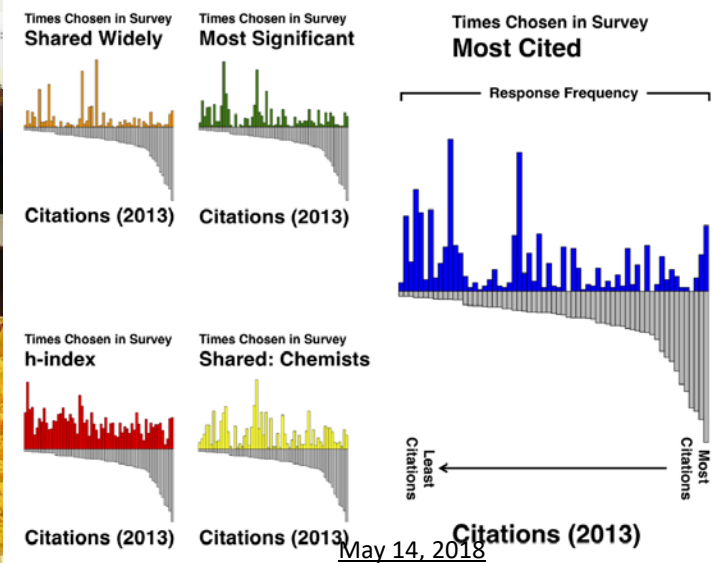
Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
<input type="checkbox"/>	CURR BIOL	0960-9822	22589	11.910	2.682	331	3.8	4.0

Journal Impact Factor

Cites in 2003 to items published in:

Calculation: Cites to recent items / Number of recent items



May 14, 2018

Goodhart's Law: “when a measure becomes a target, it ceases to be a good measure.”

Metrics are subject to manipulation, so we should look carefully not only at the number but also at the number purports to measure

“People game the system at every level and this risks the loss of valuable research in favour of fashionable research.”

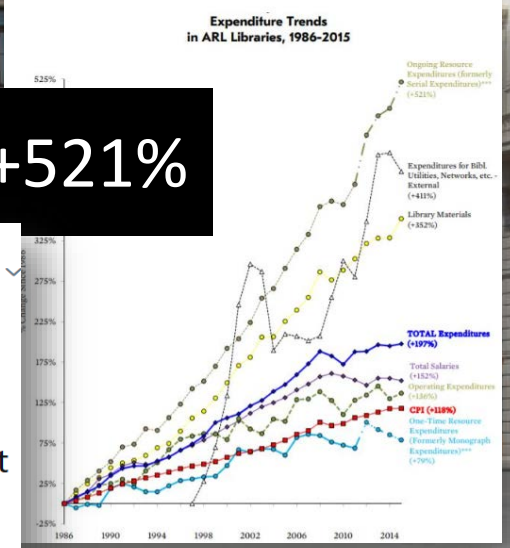


# ...l'efficacia?

# 2.100.000

## Il paradosso

# +521%



## 1. stipendio



**Jon Tennant**   
@Protohedgehog

Following

Reminder: When national research funding bodies, whose money comes from you, the taxpayer, are spending 10s of millions of euros a year on privatised services with profit margins in excess of 35%, this is a flagrant mis-use of such public funds. And should be challenged more.

Traduci il Tweet

12:28 - 21 mag 2019

May 21 2019

Paywall: The Business of Scholarship (Full CC BY 4.0 from Paywall The Movie

# PAYWALL

The Business of Scholarship

1:04:48

Industry  
A.Holcombe, Aug. 2018

10%	BMW	automobiles
23%	Rio Tinto	mining
25%	Google	search
29%	Apple	premium computing
35%	Springer	scholarly publishing
37%	Elsevier	scholarly publishing

http://wp.me/p14jF-km CC-BY-Alex Holcombe

tagli ai budget=  
minore possibilità  
di leggere  
di essere letti

1/3 800=288 milioni di  
soldi pubblici  
(2.100.000 euro UniTO)

## The Economist

... nell'era del web in cui  
tutto è disponibile...

Elsevier: +38%

ood bash. The  
ther people's work,  
thing by third parties  
ss called peer review, has been immensely  
Elsevier, a Dutch firm that is the world's biggest  
ublisher, had a margin last year of 38% on revenues  
on (\$3.2 billion). Springer, a German firm that is the  
ggest journal publisher, made 36% on sales of  
.1 billion) in 2011 (the most recent year for which  
available). Such firms are **Free for all; 4 may 2013**



# [siamo sulla strada sbagliata]

cord injury. First, there is increasing methodology. These range from neurological diseases, the lack of contamination of neural cell lines (poor reliability of published research, participant numbers are low), published research findings (commonly low in the biomedical literature). Surprisingly then, the rate of publication is slow and problematic [3]. Second, the number of papers retracted from the peer-reviewed literature is also increasing [4]. Third, there is an over-reliance on a scientist's publication metrics (numbers, journal impact factors, citation numbers) for progression, prizes, and research grants. Indeed, gaming the metrics of science is an occupational requirement for scientists, journal staff and university administrators. Publications now contain more spin (reliance on findings which are not justified by the statistics) and a more liberal use of words such as 'novel' [5]. These trends are driven by an unhealthy culture in which it can be more important to publish a result than publish a correct result [6, 7]. The trends also expose deep flaws in the current systems of peer review.

This research culture can lead to cost- and corner-cutting, with hasty publication of irreproducible results and poor-quality work—it's an era in which scientists can fall prey to the temptation to do whatever they can get away with in order to publish. This leads to scientific misconduct, commonly defined as 'fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results'. A well-known recent case is Professor

- metodologia non solida
- risultati falsi, peer review debole
- enfasi sulla pretesa «novità»
- metriche onnipotenti, per cui truffare per gonfiarle è obbligo
- «PUBBLICARE UN RISULTATO»  
INVECE DI UN «RISULTATO  
CORRETTO»



*"Yes, the planet got destroyed. But for a beautiful moment  
in time we created a lot of value for shareholders."*

CN  
COLLECTION

©Tom Toro, <http://tomtoro.com/cartoons/#jp-carousel-135>



The image features a close-up, top-down view of water with a complex pattern of ripples and reflections. The water is a vibrant blue, with lighter and darker patches creating a textured, shimmering effect. At the bottom center, the text "... cambiare panorama?" is written in a clean, white, sans-serif font.

... cambiare panorama?

# Open Science

Open Definition

*"Open data and content can be freely used, modified, and shared by anyone for any purpose"*

<http://opendefinition.org/>



**Jeff Rouder**

@JeffRouder

What is Open Science? It is endeavoring to preserve the rights of others to reach independent conclusions about your data and work.

Traduci il Tweet

21:47 - 5 dic

## Open Science Depends on Open Minds



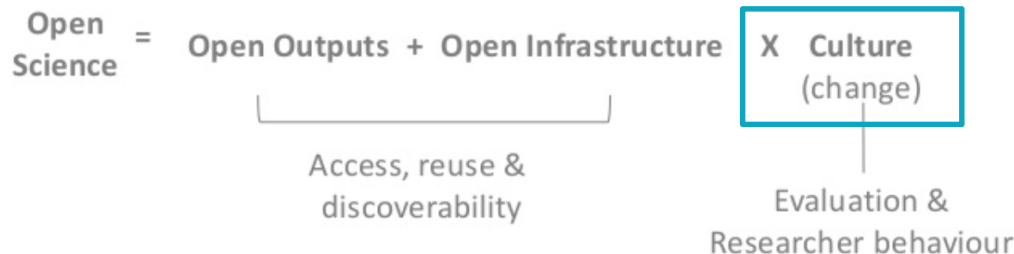
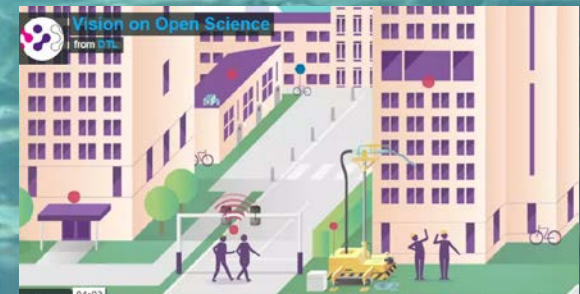
**Neelie Kroes** ✓

Iscriviti 851

**Open Science** @OpenScience

"Being open and transparent is an ongoing practice and not a check box at the end." - @biocrusoe #openscience

13 8





# Open Science

**KEY MESSAGE / 4**  
**OPEN SCIENCE ≠ OPEN ACCESS**  
**OPEN SCIENCE ≠ EOSC**



Open Science

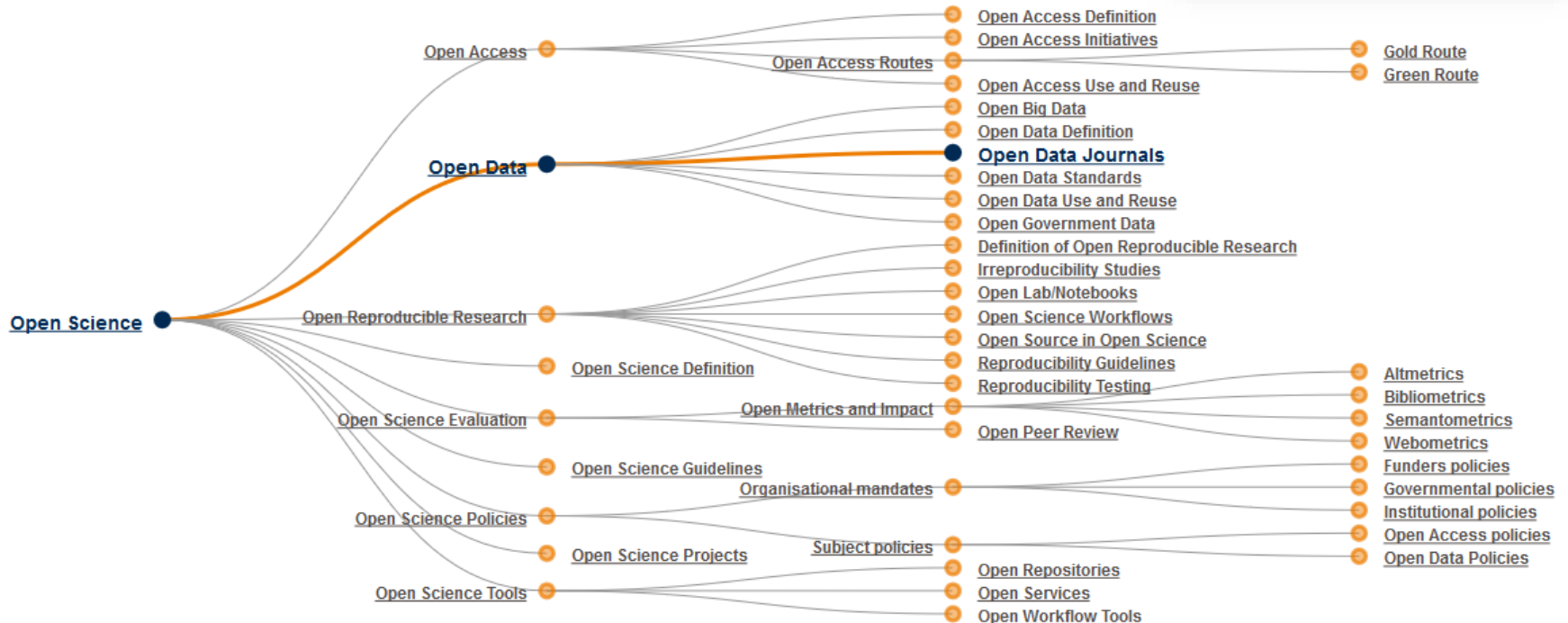
Research Data Management

Legal Issues

Text And Data Mining

TDM Methods

Research Workflow



# Open Science

## Principles of Open Scholarship Clip st

Transparency

Accountability

Inclusivity

Responsibility

Community &  
Collaboration

Visibility

Rigour

Equality

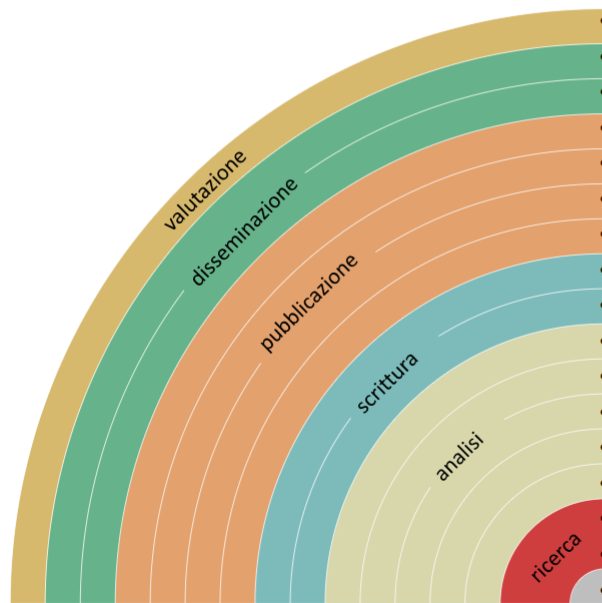
Public good

**OPEN SCIENCE:  
JUST  
SCIENCE  
DONE RIGHT**

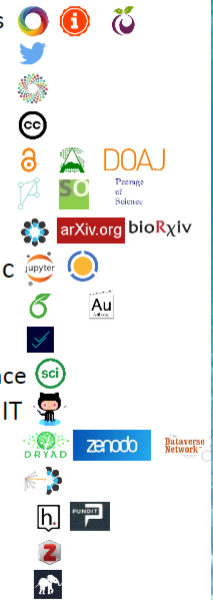


# Open science un passo per volta...

Come puoi rendere Open ogni passo della ricerca...



- aggiungendo misure di impatto alternative, es. altmetrics
- comunicando sui social media, es. Twitter
- condividendo poster e presentazioni, es. su FigShare
- utilizzando licenze aperte, es. Creative Commons BY
- depositando in archivi o pubblicando su riviste Open
- provando la open peer review, es. PubPeer o F1000
- condividendo preprints, es. su OSF, arXiv o bioRxiv
- con formati leggibili dalle macchine, es. Jupyter o CoCalc
- con la scrittura collaborativa, es. Overleaf o Authorea
- condividendo protocolli e workflow, es. su Protocols.io
- condividendo note di laboratorio, es. OpenNotebookScience
- condividendo software, es. su GitHub con licenza GNU/MIT
- condividendo i dati, es. su Dryad, Zenodo o Dataverse
- pre-registando esperimenti, es. su OSF o AsPredicted
- commentando pagine web, es. su Hypothes.is o Pund.it
- usando bibliografie condivise, es. su Zotero
- condividendo progetti di ricerca, es. su RIO Journal



 Bianca Kramer & Jeroen Bosman <https://101innovations.wordpress.com> DOI: 10.5281/zenodo.1147025

Traduzione: Elena Giglià  DOI: 10.5281/zenodo.1195648



... «core strategy» ...

HORIZON 2020

Open Science (Open A



Carlos Moedas

@Moedas



Segui

2/4 "Open as possible, as closed as necessary" is the new principle for all #data from publicly funded #research in Europe #openaccess

RETWEET

76

MI PIACE

32



Iryna Kuchma @irynakuchma · 18 nov 2015

#Openscience is about making sure that science serves innovation & growth – Günther Oettinger & Carlos Moedas



Wilma van Wezenbeek

@wvanwezenbeek

Following

#osc2018 @BurgelmanJean "2018 is the year of no return in #openscience"

Traduci il Tweet

10:32 - 13 mar 2018



European Commission

RESEARCH & INNOVATION

Open Science

European Commission > Research & Innovation > Open Science

Home

Open Access

European Open Science Cloud

Open Science Policy Platform

Groups

Open Science

European Commission Open Research Publishing Platform

The Commission proposes to fund a European Commission Open Research Publishing

TESTI E DATI OPEN BY DEFAULT (come fare)



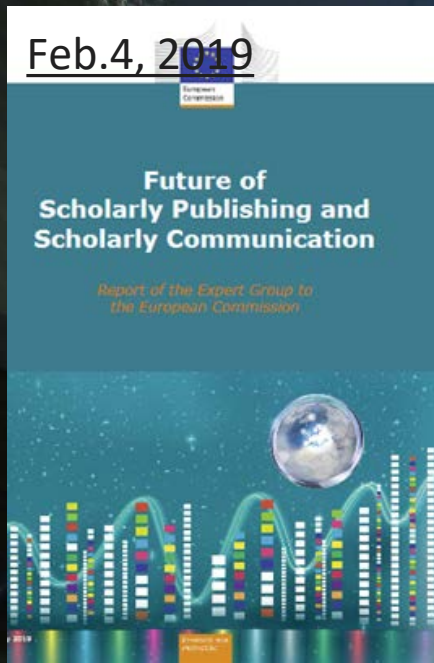
The EU Framework Programme for Research and Innovation

HORIZON 2020



Feb.4, 2019

# Science in Europa



- Rewards and Incentives
- Research Indicators and Next-Generation Metrics
- Future of Scholarly Communication
- European Open Science Cloud
- FAIR Data
- Research Integrity
- Skills and Education
- Citizen Science



## Providing researchers with the skills and competencies they need to practise Open Science

Open Science Skills Working Group Report

## Integrated advice of the Open Science Policy Platform on 8 prioritised Open Science ambitions

May 29, 2018

Report, Sept.2017



Politiche nazionali e di ogni ateneo su Open Access e Open Data

COMMISSION RECOMMENDATION

of 25.4.2017

on access to and preservation of

### Removing barriers to open science

1. Change assessment, evaluation and reward systems in science . . . . . 2
2. Facilitate text and data mining of content . . . . . 0
3. Improve insight into IPR and issues such as privacy . . . . . 1
4. Create transparency on the costs and conditions of academic communication 4

### Developing research infrastructures

5. Introduce FAIR and secure data principles . . . . . 16
6. Set up common e-infrastructures . . . . . 18

### Fostering and creating incentives for open science

7. Adopt open access principles . . . . . 22
8. Stimulate new publishing models for knowledge transfer . . . . . 23
9. Stimulate evidence-based research on innovations in open science . . . . . 26

### Mainstreaming and further promoting open science policies

10. Develop, implement, monitor and refine open access plans . . . . . 30

### Stimulating and embedding open science in science and society

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Amsterdam Call for Action on Open Science

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## Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

Report on OS and careers, July 2017



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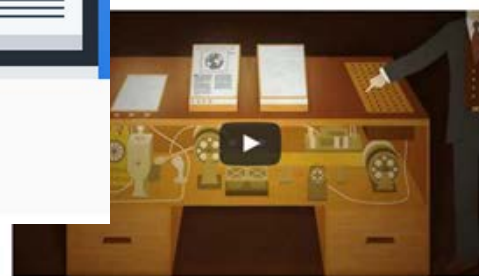


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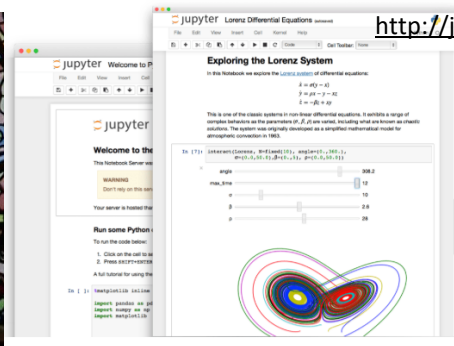
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J. Polka,

, June 2017

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Wilson, Willie; Martínez Martínez, Joaquín; Archer, Steve; Fields, David; Gilg, Ilana; Fløge, Sheri

(show affiliations)

Experimental data sets used for manuscripts associated with coccolithovirus infection of *Emiliania huxleyi*. Flow cytometry data; expression data of genes associated with photophysiology, fatty acid metabolism and sulphur cycling.

Please contact Willie Wilson (wilwil@sahfos.ac.uk) for further information.

Name	Date	Size	Download
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DOI

[10.5281/zenodo.31006](https://doi.org/10.5281/zenodo.31006)

Keyword(s):

Virus, *Emiliania huxleyi*, photophysiology, sulphur cycling, fatty acid metabolism

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Willie (on 15 September 2015)

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protocols.io logo and URL: <https://www.protocols.io/>

Figshare protocol page for 'Fixation of yeast cells'. The protocol includes steps: 1. Around 10am, start a cell culture in a 50ml tube... 2. Grow for 9-10 hours in a shaker at 30 °C. 3. Measure OD in the evening and dilute into 250ml. 4. Transfer to 50ml falcon tubes. The page also shows a 'TIMER' section with a 45-second interval.

A grid of research posters and documents. Visible titles include: 'Effects of agriculture on evolution of native species', 'Integrative modelling of higher order chromatin' (Benjamin Moore, 29/04/2015), 'IBM day poster' (Joe Cheri Ross, 07/02/2017), and 'Constraining the structure of the proton with proton-nucleus collisions' (David Zaslavsky, 17/10/2013).

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# ...con dati FAIR...

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## The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson, Michel Dumontier [...] Barend Mons

### Abstract

There is an urgent need to improve the infrastructure supporting the reuse of scholarly data. A diverse set of stakeholders—representing academia, industry, funding agencies, and scholarly publishers—have come together to design and jointly endorse a concise and measurable set of principles that we refer to as the FAIR Data Principles. The intent is that these may act as a guideline for those wishing to enhance the

ata holdings. Distinct from peer initiatives that scholar, the FAIR Principles put specific emphasis

FAIR guide, Nature, March 2016



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The Future of Research Communications and e-Scholarship

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## THE FAIR DATA PRINCIPLES

Open data  
is about  
MORE  
THAN  
DISCLOSURE  
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"Fair"

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- Accessible
- Interoperable
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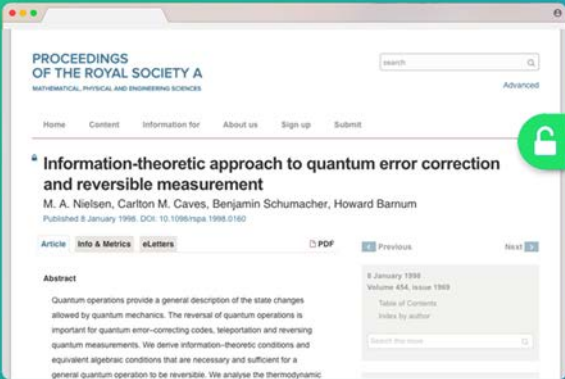


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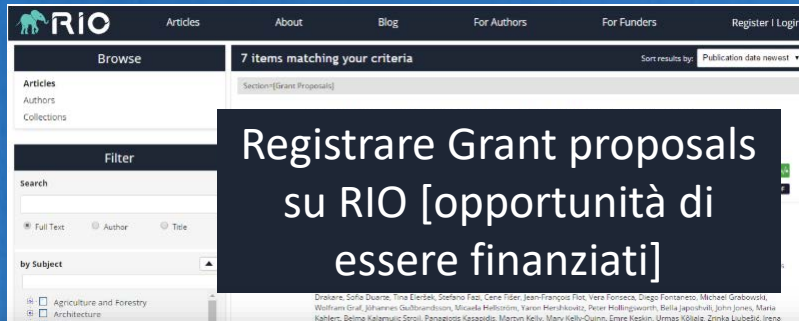
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# Open scholarly

## 10 Myths around Open Scholarly Publishing

### Myth 1

**Preprints will get your research 'scooped'**

Preprints typically provide a time-stamp and a DOI, therefore establishing priority of discovery

### Myth 6

**Copyright transfer is required to publish and protect authors**

Copyright transfer procedures do not protect authors nor contribute to the advancement of scientific progress

### Myth 2

**JIF and journal branding are measures of quality for researchers**

The JIF is a flawed metrics that was never meant to be used for evaluation of research and researchers

### Myth 7

**Gold Open Access is synonymous with the APC business model**

Most DOAJ-indexed journals do not have APCs and are funded from other sources, such as research institutes and grants

### Myth 3

**Approval by peer review proves that you can trust a research article**

The current peer review system is prone to a number of flaws including corruption, human bias and ghostwriting

### Myth 8

**Embargo periods on 'green' OA are needed to sustain publishers**

Traditional journals can peacefully coexist with zero-embargo self-archiving policies on author manuscripts

### Myth 4

**Without journal peer review, the quality of science suffers**

Researchers are more than responsible and competent enough to ensure their own quality control as part of intrinsic scientific integrity

### Myth 9

**Web of Science and Scopus are global databases of knowledge**

Neither represent the sum of current global research knowledge including Africa, Latin America and Southeast Asia

### Myth 5

**Open Access has created predatory publishers**

Predatory journals have been around for a long time before the recent push towards Open Access publishing

### Myth 10

**Publishers add no value to the scholarly communication process**

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## Ten myths around open scholarly publishing

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ResearchGate vs. publishers

## ResearchGate vs. Publishers: The Saga Continues...

Last updated May 8, 2018

May 2018

# ResearchGate bows to pressure from publishers on copyrighted material



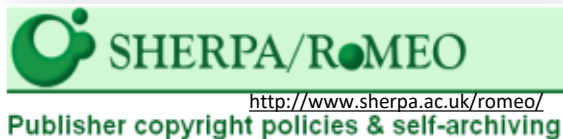
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# Arsenate toxicity on the apices of *Pisum sativum* L. seedling roots: Effects on mitotic activity, chromatin integrity and microtubules

Stefania Dho, Wanda Camusso, Marco Mucciarelli, Anna Fusconi

## Abstract

Arsenic (As) is one of the most toxic pollutants in the environment, where it severely affects both animal and plant growth. Despite the growing literature data on As effects on plant development, alterations induced by this element on meristem activity of the root have not been explored to any great extent. In the present study, short-term experiments with arsenate have been conducted on *Pisum sativum* L. seedlings to assess whether plant growth impairment is due to DNA/chromosome or mitotic microtubule damages. Root growth was studied by evaluating apical meristem activity and cell elongation. Mitotic aberrations, DNA fragmentation and microtubule organization of the apical cells were also analyzed. The results have shown that arsenate, at the lowest concentration (0.25  $\mu\text{M}$ ), slightly increases root growth and some related parameters, whilst the other concentrations have a dose-dependent negative effect on root growth, on the mitotic and labelling index (after bromo-deoxyuridine administration), and on the mitotic arrays of microtubule (through immunofluorescence). The main effects on mitosis occurred for 25  $\mu\text{M}$  As. The percentage of metaphases increased, as did the irregular metaphases and c-mitoses. This was related to alterations in the mitotic spindles, which closely resemble those induced by colchicine. Chromosome breaks and anafelophase bridges were virtually absent, whilst DNA fragmentation only increased from 25  $\mu\text{M}$  arsenate onwards. These data point to a poor clastogenetic activity of As and implicate that microtubules are one of the main targets of As.

## Keywords

Pea; Arsenic; Apical meristems; Aberrations; Immunofluorescence; TUNEL test

## 1. Introduction

Arsenic (As) is a toxic element, frequently found in soils and water. A main natural source of As is the erosion of mother rock, even though a consistent part of As environmental pollution comes from human activities (Meharg and Hartley-Whitaker, 2002 and Patra et al., 2004). The As in unpolluted fresh water is usually in the range 1–10  $\mu\text{g/l}$ . According to EPA and WHO, the maximum permissible As concentration in drinking water is 50  $\mu\text{g/l}$  (Mandal and Suzuki, 2002).

Arsenic is a well-established human carcinogen (Qin et al., 2008a) and has been shown to be genotoxic in a variety of *in vitro* studies (Hughes, 2002). In plants, it severely affects growth and development, and its toxicity is strongly dependent on the concentration, exposure time and physiological state of the plant (Singh et al., 2007). However, plants vary in their sensitivity to As, and a wide range of species have been identified in As-contaminated soils (Meharg and Hartley-Whitaker, 2002). Besides, hyperaccumulators such as *Pteris vittata*, which tolerate high internal As content, may also use this As to defence themselves against herbivore attack (Mathews et al., 2009).

Higher plants take up As mainly as arsenate (V), the dominant form of phytoavailable As in aerobic soils. According to Meharg and Hartley-Whitaker (2002), As competes with phosphate for plant phosphate transporters. Upon absorption, most arsenate is rapidly reduced to arsenite (III), due to an arsenate reductase activity (Xu et al., 2007), hence, the arsenate cytoplasmic concentration is generally not high enough to exert toxicity (Meharg and Hartley-Whitaker, 2002). Both As species interfere with various metabolic pathways: arsenate, as an analogous chemical to phosphate, may replace phosphate in the ATP and in various



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# Arsenate toxicity on the apices of *Pisum sativum* L. seedling roots: Effects on mitotic activity, chromatin integrity and microtubules

Stefania Dho<sup>a</sup>, Wanda Camusso<sup>a</sup>, Marco Mucciarelli<sup>b</sup>, Anna Fusconi<sup>a,\*</sup>

<sup>a</sup> Dipartimento di Biologia Vegetale, CEBIOVEM, Viale Mattioli 25, I-10125 Torino, Italy

<sup>b</sup> Dipartimento di Morfologia Veterinaria, Via Leonardo da Vinci 44, I-10095 Grugliasco (To), Italy

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TUNEL test

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may also use this As to defence themselves against herbivore attack (Mathews et al., 2009).

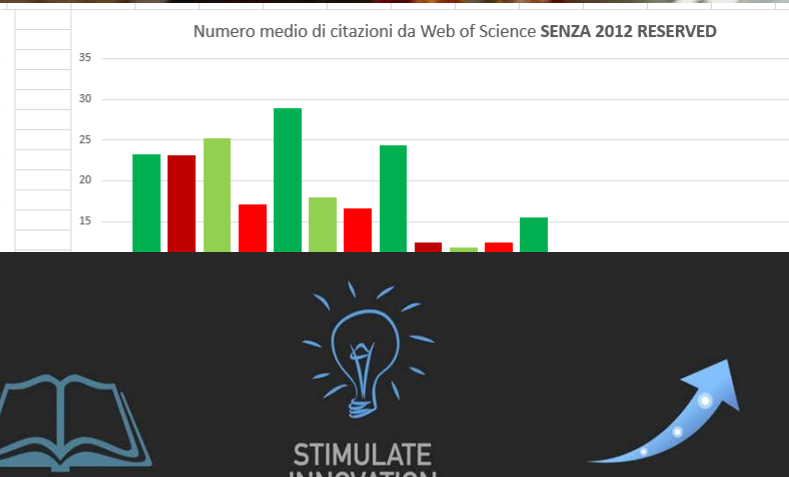
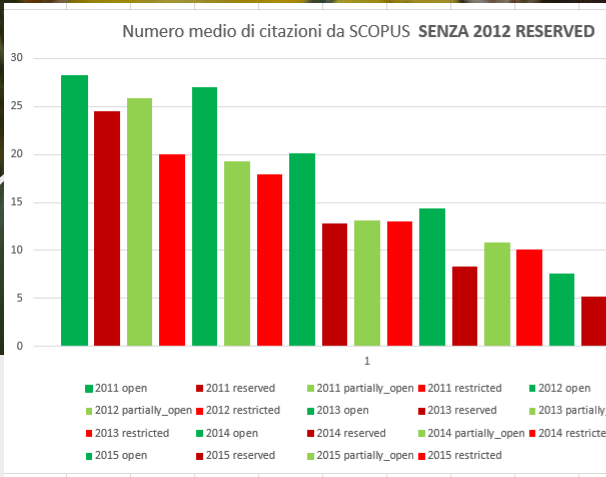
Higher plants take up As mainly as arsenate (V), the dominant form of phytoavailable As in aerobic soils. According to Meharg and Hartley-Whitaker (2002), As competes with phosphate for plant phosphate transporters. Upon absorption, most arsenate is rapidly reduced to arsenite (III), due to an arsenate reductase activity (Xu et al., 2007), hence, the arsenate cytoplasmic concentration is generally not high enough to exert toxicity (Meharg and Hartley-Whitaker, 2002). Both As species interfere with various metabolic pathways: arsenate, as an analogous chemical to phosphate, may replace phosphate in the ATP and in various phosphorylation reactions, leading to the disruption of the energy flow in cells. The toxicity of arsenite is mainly ascribed to its reaction with sulphhydryl groups of proteins that interfere with their functions (Meharg and Hartley-Whitaker, 2002; Patra et al., 2004).

Exposure to high concentrations of As induces the production of reactive oxygen species (ROS) (Singh et al., 2007; Wang et al., 2007; Lin et al., 2008; Shri et al., 2009) and the conversion of arsenate to arsenite is regarded as one of the causes of ROS generation (Wang et al., 2007). Oxidative stress induced by As can damage cells, mainly through lipid peroxidation of membranes (Singh et al., 2007) and DNA fragmentation, as has been demonstrated in leaves and roots

\* Corresponding author. Tel.: +39 011 6705968; fax: +39 011 6705962.  
E-mail address: [anna.fusconi@unito.it](mailto:anna.fusconi@unito.it) (A. Fusconi).



I var



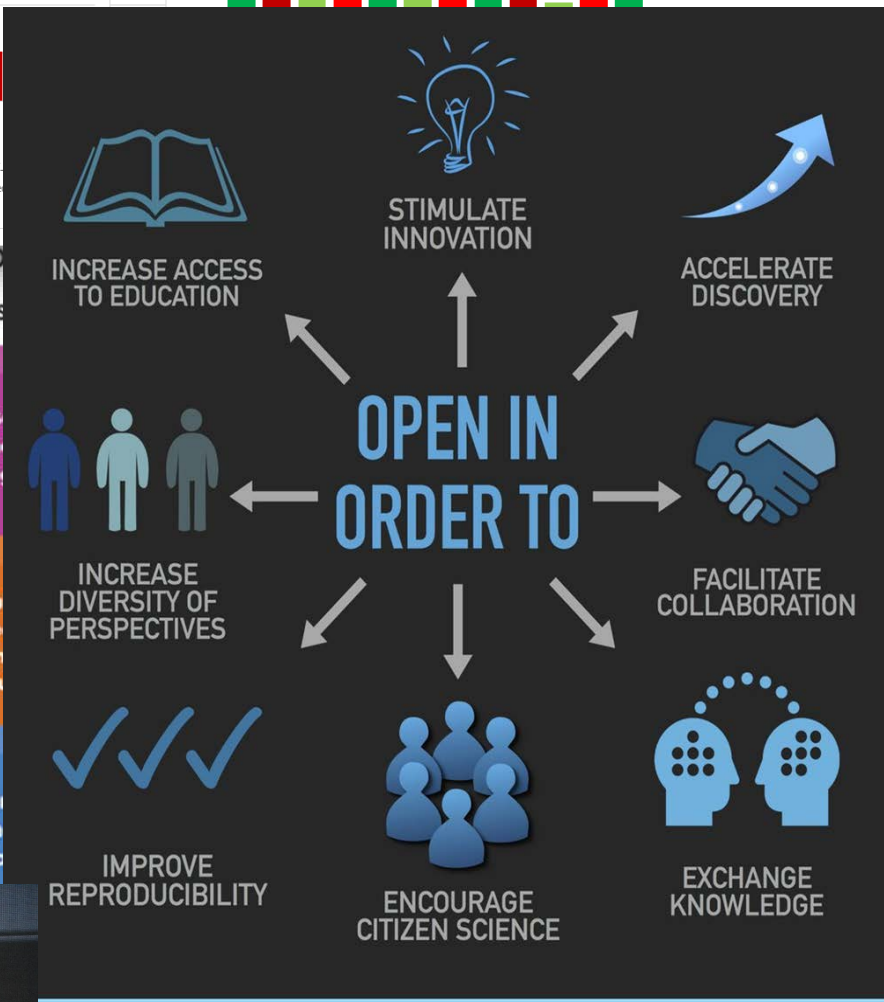
**Demonstrating Achievements**  
Open access for Institutions

Building Reputation	Garnering Funding	Developing Alumni Connections
Strengthening Recruiting	Demonstrating Learning Outcomes	Professionalizing Students
Contributing Stories for Public Relations	Aiding Accreditation	Boosting Operational Efficiency

**Reputation**  
Open access

Amplifying Scholarly Expertise	Pres Sch Le
Forging Business & Government Partnerships	Popu Rese Main O
Modeling Innovative Teaching	Lau Sch Co

bepress™



# GOLD OA - In cosa le riviste Open Access sono diverse?

PUBBLICANO I **DATI** INSIEME ALL' ARTICOLO  
- **TRASPARENZA**  
- **RIPRODUCIBILITÀ**

PUBBLICANO LE **REVISIONI** INSIEME ALL' ARTICOLO  
- **TRASPARENZA**  
- **CONOSCENZA**

PUBBLICANO CON **LICENZE CREATIVE COMMONS** E  
NON CHIEDONO CESSIONE DEI DIRITTI  
- **RIUSO**  
- **TEXT E DATA MINING**

PUBBLICANO RAPIDAMENTE

(spesso) PUBBLICANO IN FORMATI MACHINE-READABLE  
- **TEXT E DATA MINING**





# Attenzione!

## **Abbonamenti**

- sono pagati **ogni anno**
- **cregono** ogni anno
- **chiudono il contenuto** per chi non ha abbonamento

## **APC**

- sono pagate **una volta** per tutte
- **aprono il contenuto** per tutti

**DISTINGUETE SEMPRE**

- EDITORI OPEN ACCESS «PURI»
- EDITORI IBRIDI

**(EDITORI TRADIZIONALI CHE OFFRONO OPZIONE OPEN)**

# La «red road»

la Gold road **non** è la «Open Choice»  
degli editori tradizionali  
(Elsevier, Springer, Wiley...)

pagando 3000 \$,  
UN SINGOLO articolo viene reso Open Access,  
mentre la rivista resta IN ABBONAMENTO

di fatto, paghiamo due volte...

serve solo se l'ente finanziatore  
stabilisce embargo massimo inferiore a  
quello stabilito dall'editore  
(es. Horizon 2020, che però rimborsa)

[DA EVITARE SE POSSIBILE, perché auto-  
archiviando ottengo stesso effetto, gratis!!!]



# ...predatori?

**CASPA** Open Access Scholarly Publishers Association

HOME ABOUT OASPA CONFERENCE

**Members**  
The following organizations and individuals are recognized as Members of OASPA.

**DOAJ** DIRECTORY OF OPEN ACCESS JOURNALS

Home Search Browse Subjects Apply News About For Publishers API

Search DOAJ  
 journals  articles [\[Advanced Search\]](#)

10,011 Journals  
7,272 searchable at Article level  
122 Countries  
2,593,811 Articles

**Directory of Open Access Journals (DOAJ)**  
DOAJ is a community-curated online directory that indexes and provides access to high quality, open access, peer-reviewed journals. DOAJ is independent. All funding is via donations, 50% of which comes from sponsors and 50% from members and publisher members. All DOAJ services are free of charge including being indexed in DOAJ. All data is freely available.

**Latest News**  
DOAJ gets its first sponsor from Mexico! | DOAJ consigue su primer patrocinador de México!  
DOAJ has had excellent connections and representation throughout Latin America for many years, thanks to previous work by Redalyx, sponsorship from ScElo and, more recently, our fantastic DOAJ Latin America Ambassador. This week we welcome our first sponsor from Mexico: the Tecnológico de Monterrey. This sponsorship is of great importance to both DOAJ and the open [...] [Read More...](#)  
Published Fri, 25 Aug 2017 at 07:00

Professional OA Publisher (Medium)

- AOSIS OpenJournals, division of AOSIS (Pty) Ltd
- Co-Action Publishing

<https://oaspa.org/>

**Think, Check, Submit.**  
From Think, Check, Submit.

**THINK** **CHECK** **SUBMIT**

Choose the right journal for your research

Home Think Check Submit About Languages

**ITALIAN**

La condivisione dei risultati della ricerca è un aspetto cruciale per l'avanzamento della conoscenza e per lo sviluppo della tua carriera. Ma con così tante pubblicazioni, come puoi essere sicuro di affidarti alla rivista giusta?

Segui questa check list per essere sicuro di scegliere le riviste adatte alla tua ricerca.

**THINK** **Pensa**

Are you submitting your research to a journal in your discipline and career field? Is it the right journal for you?

Stai inviando la tua ricerca a una rivista affidabile?  
E' la rivista giusta per la tua ricerca?

- Sempre più ricerche scientifiche sono pubblicate in tutto il mondo.
- Nuove riviste accademiche vengono lanciate ogni settimana.
- Casi di pratiche illecite e ingannevoli da parte di editori sono sempre più diffusi.

**CHECK**

Use our [check list](#) to assess the journal

**SUBMIT**

Only if you can answer 'yes' to the questions on our check list

<http://thinkchecksubmit.org/translations/italian/>

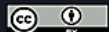
# COME RENDERE LA VOSTRA RICERCA OPEN ACCESS

LEGALMENTE E GRATUITAMENTE



## ... in pratica

...c'è sempre un modo per fare Open Access, anche gratis (e questo non rovina la vostra carriera)



Jon Tennant and Lisa Matthias  
Translated by Elena Giglia

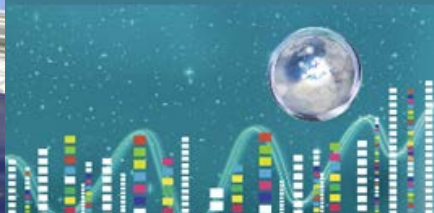


Feb.4, 2019

European  
Commission

## Future of Scholarly Publishing and Scholarly Communication

Report of the Expert Group to  
the European Commission



In Europa, intanto...

The conclusion is actually simple: the evaluation of research is the keystone, and it has already been identified by scholars around the world, and by various expert groups within the European Commission, as structuring a global research architecture characterised by an unlimited quest for rankings. The ranking imperative affects all levels of the research structure, and it tends to constrain change for nearly all actors. This is true of individual researchers, of research groups, of whole research institutions, and even of whole countries. Symmetrically, publishers design their marketing strategies around journal rankings. But they too have become prisoners of this strategy, even though they benefit from it, and they have difficulties seeing beyond it.

PLAN S

TRANSFORMATIVE  
AGREEMENTS



# Transformative agreements

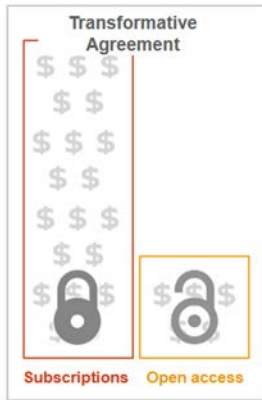
Participants from 37 nations and five continents, representing research performing and research funding institutions, libraries and government higher education associations and rectors' conferences, associations of researchers and other open access initiatives gathered at the 14th Berlin Open Access Conference held 3-4 December 2018 in Berlin. They affirmed that there is a strong alignment among the approaches taken by OA2020, Plan S, the Jussieu Call and others to facilitate a full and complete transition to open access. The statement that follows represents the strong consensus of all of those represented at the meeting.

We are all committed to authors retaining their copyrights,  
We are all committed to complete and immediate open access,  
We are all committed to accelerating the progress of open access through transformative agreements that are temporary and transitional, with a shift to full open access within a very few years. These agreements should, at least initially, be cost-neutral, with the expectation that economic adjustments will follow as the markets transform.

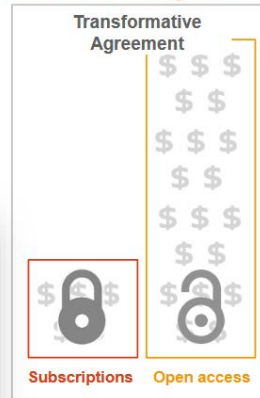
Publishers are expected to work with all members of the global research community to effect complete and immediate open access according to this statement.

## Transformative agreements get control over hybrid costs

FINAL CONFERENCE STATEMENT  
14th Berlin Open Access Conference



## Subscription funds are converted to open access publishing funds



## Unbundled subscription costs allow money to flow where researchers choose to publish



Campbell 2019

### Transformative Agreements: Come e perché

Transformative agreements e Plan S: verso l'Open Access globale  
21 febbraio 2019 | Biblioteca Centrale CNR

Colleen Campbell  
Open Access 2020 Initiative | Max Planck Digital Library  
@oa2020ini

## 14th BERLIN OPEN ACCESS CONFERENCE ALIGNING STRATEGIES TO ENABLE OPEN ACCESS

Harnack House, Berlin, 3-4 December 2018

Dec. 2018





# Transformati Uscire si può



As a leader in the global movement toward open access to publicly funded research, the University of California is taking a firm stand by deciding not to renew its subscriptions with Elsevier. Despite months of contract negotiations, Elsevier was unwilling to meet UC's key goal: securing universal open access to UC research while containing the rapidly escalating costs associated with for-profit journals.

In negotiating with Elsevier, UC aimed to accelerate the pace of scientific discovery by ensuring that research produced by UC's 10 campuses — which accounts for nearly 10 percent of all U.S. publishing output — would be immediately available to the world, without cost to the reader. Under Elsevier's proposed terms, the publisher would have charged UC authors large publishing fees on top of the university's multi-million dollar subscription, resulting in much greater cost to the university and much higher profits for Elsevier.

"Knowledge should not be accessible only to those who can pay," said Robert May, chair of UC's faculty Academic Senate. "The quest for full open access is essential if we are to truly uphold the mission of this university." The Academic Senate issued a [statement](#) today endorsing UC's position.

ring universal open access to UC research while containing the rapidly escalating costs associated with for-profit journals.

**KEY MESSAGE / 7**  
**NECESSARIO IL SOSTEGNO**  
**CONVINTO DELLA COMUNITÀ**  
**DEI RICERCATORI**

... una chiamata: PlanS



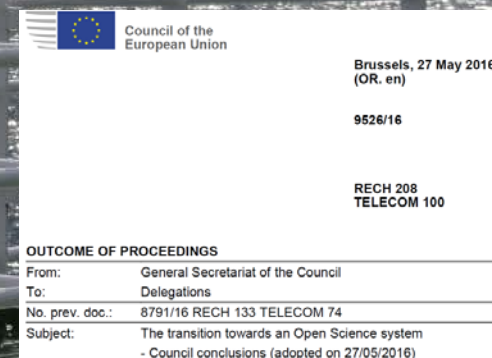
CHIUNQUE VOGLIA  
CAPIRE PLAN\_S  
DOVREBBE VEDERE  
QUESTO VIDEO

WE NEED RADICAL  
AND ROBUST  
ACTIONS





# ...da dove viene PlanS



- DALL'ESIGENZA DI SVELTIRE UNA «TRANSIZIONE» ALL'OPEN ACCESS TROPPO LENTA E INEFFICACE (15 ANNI)
- DAL **COUNCIL ON COMPETITIVENESS** DI MAGGIO 2016

# ...il 4 settembre 2018 esce Plan S

cOAlition S  
Making  
Open Access  
a reality  
by 2020

A DECLARATION OF COMMITMENT  
BY PUBLIC RESEARCH FUNDERS

<http://scieur.org/coalition-s>

Plan S Sept. 4, 2018

Accelerating the transition to  
full and immediate Open Access to  
scientific publications

DOAJ DIRECTORY OF  
OPEN ACCESS  
JOURNALS

3.337 SU 12.699  
JOURNALS CON APCs  
26%

## KEY MESSAGE / 8

### PLAN S

- NON SIGNIFICA PAGARE PER PUBBLICARE
- RICHIEDE MODIFICA DEI CRITERI DI VALUTAZIONE

- AUTORI MANTENGONO IL COPYRIGHT (LICENZE CC BY)
  - RIVISTE IBRIDE NON SONO AMMESSE
  - SE (E SOTTOLINEO SE) CI SONO APC, VENGONO PAGATE DALLE ISTITUZIONI
    - LE APC HANNO UN TETTO
- [VANNO MODIFICATI I CRITERI DI VALUTAZIONE]



# PlanS implementation

## JOURNALS OR PLATFORMS

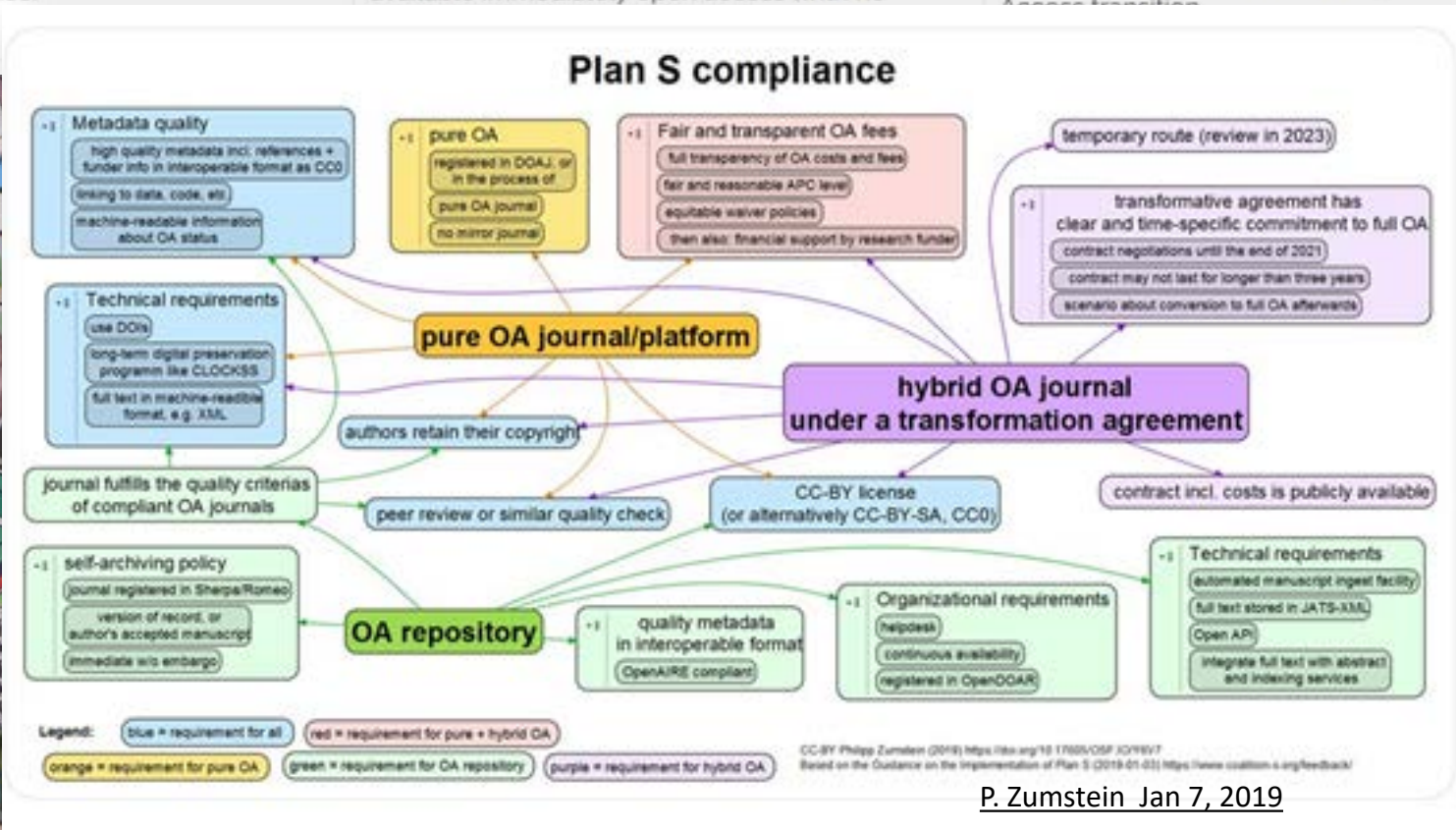
Authors publish in a Plan S compliant Open Access journal or on a Plan S compliant Open Access platform with a CC BY license.

## SELFARCHIVING

Immediately upon publication, authors deposit the final published version of a scholarly publication (Version of Record (VoR)) or an Author's Accepted Manuscript (AAM), in a Plan S compliant repository. The document is made available immediately open access (with no

## SUBSCRIPTION JOURNAL UNDER TRANSFORMATIVE

Authors publish Open Access with a CC BY license in a subscription journal that is covered by a transformative agreement that has a clear and time-specified commitment to a full Open Access transition.



P. Zumstein Jan 7, 2019

... parliamo di dati...

- 1) Non è facile gestire i dati
- 2) Non c'è una ricetta, ogni dataset unico
- 3) Ci sono molti aspetti da considerare
- 4) Molti strumenti da imparare a usare
- 5) Sembra richiedere così tanto tempo
- 6) Ma i benefici sono enooooooooooooormi

<http://www.insideoutproject.net/~3FUuv>

« On ne sait pas  
ce que nous réserve  
l'avenir,  
alors profitons »

« Laissez moi mon  
insouciance »

<http://www.insideoutp>

« Laissez  
être heur



# I dati. Perché vanno curati?



... è l'incubo del data steward:

- nessun backup
- nessun software di accompagnamento
- nessuna legenda dati

... e in più:

- dati prodotti con fondi pubblici
- pubblicati su Science che li richiede
- utili a una ricercatrice di area diversa



# Perché occuparsi dei dati?

How and why you should manage your research data: a guide for researchers

An introduction to engaging with research data management processes. [JISC Guide](#)

EVITARE DI  
PERDERLI

ALCUNI SONO  
UNICI E  
IRRIPETIBILI  
(meteorologia)

ORGANIZZARLI PER  
RENDERE PIÙ EFFICACE  
LA RICERCA

(SE APERTI)  
ESSERE PIÙ  
VISIBILI

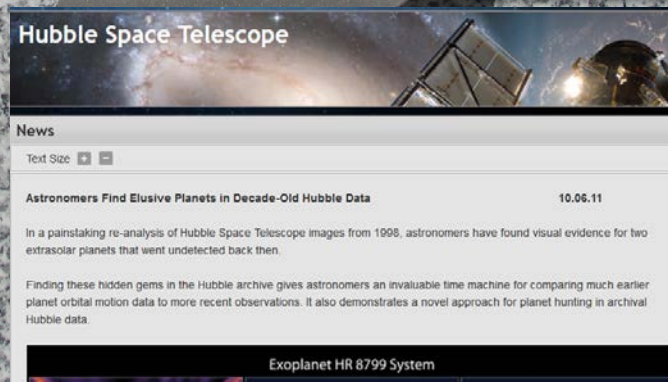
PERMETTERE  
VALIDAZIONE E  
CONTROLLI

(SE APERTI)  
FAVORIRE  
COLLABORAZIONI

MIGLIORARE  
INTEGRITÀ DELLA  
RICERCA

(SE APERTI)  
FAVORIRE  
RIUSO INEDITO

ESSERE  
RIPRODUCIBILI



«the coolest thing to do with your data will be thought of by someone else» [R.Pollock]



# Perché occuparci dei dati?

## The Vienna Declaration on the European Open Science Cloud

Vienna, 23 November 2018

e 20  
u 18  
- a t

Vienna, Nov.23, 2018

### PERCHÉ ORA ABBIAMO EOSC

**We, Ministers, delegates and other participants attending the launch event of the European Open Science Cloud (EOSC):**

- 1. Recall** the challenges of data driven research in pursuing excellent science as stated in the “EOSC Declaration” signed in Brussels on 10 July 2017.
- 2. Reaffirm** the potential of the European Open Science Cloud to transform the research landscape in Europe. Confirm that the vision of the European Open Science Cloud is that of a research data commons, inclusive of all disciplines and Member States, sustainable in the long-term.
- 3. Recognise** that the implementation of the **European Open Science Cloud is a process, not a project**, by its nature iterative and based on constant learning and mutual alignment. Highlight the need for continuous dialogue to build trust and consensus among scientists, researchers, funders, users and service providers.
- 4. Highlight** that Europe is well placed to take a global leadership position in the development and application of cloud services for Science. Reaching out over time to **SEAMLESS ACCESS TO OPEN BY DEFAULT** and open to the world, **FAIR DATA**
- 5. Recall** that the Council **roadmap and the federated**

**9. Call** for the European Open Science Cloud to provide all researchers in Europe with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing and processing research data supported by FAIR data principles.

**6. Note** that the 2018 EOSC Summit (held on 11 June 2018) called for acceleration towards making the European Open Science Cloud a reality, hinting at the need to further strengthen the ongoing dialogue across institutions and with stakeholders, for a new governance framework to be launched in Vienna, on 23 November 2018.

# [EOSC – cioè?]



2016

## Realising the European Open Science Cloud

First report and recommendations  
of the Commission High Level Expert Group  
on the European Open Science Cloud

## THE EUROPEAN OPEN SCIENCE CLOUD? SOME NUANCES AND DEFINITIONS

Imagine a federated, globally accessible environment where researchers, innovators, companies and citizens can publish, find and re-use each other's data and tools for research, innovation and educational purposes. Imagine that this all operates under well-defined and trusted conditions, supported by a sustainable and just value for money model. This is the environment that must be fostered in Europe and beyond to ensure that European research and innovation contributes in full to knowledge creation, meet global challenges and fuel economic prosperity in Europe. This we believe encapsulates the concept of the European Open Science Cloud (EOSC), and indeed such a federated European endeavour might be expressed as the European contribution to an Internet of FAIR Data and services.

The European Open Science Cloud is a supporting environment for Open Science and not an 'open Cloud' for science.

The EOSC aims to accelerate the transition to more effective Open Science and Open Innovation in a Digital Single Market by removing the technical, legislative and human barriers to the re-use of research data and tools, and by supporting access to services, systems and the flow of data across disciplinary, social and geographical borders. The term European Open Science Cloud requires some reflection to dispel incorrect associations and clarify boundaries; in fact the term 'cloud' is a metaphor to help convey the idea of seamless and a commons.



# [EOSC è anche data stewardship]



The number of people with these skills needed to effectively operate the EOSC is, we estimate, likely exceeding **half a million within a decade**. As we further argue below, we believe that the implementation of the EOSC needs to include instruments to help train, retain and recognise this expertise, in order to support the 1.7 million scientists and over 70 million people working in innovation<sup>9</sup>. The success of the EOSC depends upon it.

## Open Working

An Experiment in Open Working from 4TU.Centre for Research Data & TU Delft Research Data Services (Note! This is a test)

[HOME](#) [ABOUT OPEN WORKING AT TU DELFT](#) [DRAFT DATA MANAGEMENT PLAN CATALOGUE](#) [DATA STEWARDSHIP](#) [CONTACT](#)

FEBRUARY 23, 2018

## We are hiring (again!) – Data Steward position at TU Delft

**WE ARE HIRING**

The screenshot shows the RDA website's membership section. It features the RDA logo (Research Data Alliance) and a globe icon. The text indicates 'O&amp;A Members' with a count of '56' in a yellow box. Below this, it says 'Active Organisational &amp; Affiliate members'. To the right, there is a 'MEMBERSHIP' section with the text 'Becoming a member - open to both individuals and organisations' and a 'Register now' button. At the bottom, there are navigation links: 'ABOUT RDA', 'GET INVOLVED', 'GROUPS', 'RECOMMENDATIONS &amp; OUTPUTS', and 'RDA FOR'.

## FAIR Data Steward school Trieste August 5-16 2019

The CODATA-RDA Research Data Science Summer School provides training in the foundational skills of Research Data Science. Contemporary research – particularly when addressing the most significant, transdisciplinary research challenges – cannot be done effectively without a range of skills relating to data.

The school is held at the [International Centre for Theoretical Physics](https://www.ictp.it/) running from August 5-16. The venue, the Adriatico Guest House, is a delightful self-contained site, overlooking the sea, where there is accommodation, lecture halls, a terminal room and a canteen.



This year the school will be running a parallel strand that is oriented to students who are interested in Data Stewardship.



# Perché occuparci di dati?

## Il debito pubblico deprime la crescita? Il clamoroso errore di Carmen Reinhart e Kenneth Rogoff 2013

Publicato da keynesblog il 18 aprile 2013 in consigliati, Economia, ibt, Teoria economica

### DATA AB INITIO

BRINGING RESEARCH DATA RIGHT, FROM THE START

K.Birney, 2015

and think, "surely I've covered this one my blog?"  
I was up when I wrote December's Exit Strategy post.

hand, as you don't want to be stuck with  
The economics of data, little word format



1. l'esclusione selettiva di alcune osservazioni nei dati;
2. uno schema di bilanciamento dei dati non convenzionale;
3. un errore di codice nel foglio di calcolo originale utilizzato per selezionare i dati.

## Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff

Thomas Herndon\* Michael Ash Robert Pollin

April 15, 2013

Herndon, 2013

JEL CODES: E60, E62, E65

### Abstract

We replicate Reinhart and Rogoff (2010a and 2010b) and find that coding errors, selective exclusion of available data, and unconventional weighting of summary statistics lead to serious errors that inaccurately represent the relationship between public debt and GDP growth among 20 advanced economies in the post-war period. Our finding is that when properly calculated, the average real GDP growth rate for countries carrying a public-debt-to-GDP ratio of over 90 percent is actually 2.2 percent, not -0.1 percent as published in Reinhart and Rogoff. That is, contrary to RR, average GDP growth at public debt/GDP ratios over 90 percent is not dramatically different than when debt/GDP ratios are lower.

We also show how the relationship between public debt and GDP growth varies significantly by time period and country. Overall, the evidence we review contradicts Reinhart and Rogoff's claim to have identified an important stylized fact, that public debt loads greater than 90 percent of GDP consistently reduce GDP growth.





# Un po' di glossario

ABOUT THE COURSE ▶ START THE COURSE ▶ LOGIN ▶

**rdnl** research  
data  
netherlands

Essentials 4 Data Support ▶ Start the course ▶ I-Definitions ▶ Research data

I-Definitions

Research data

Open data

Research lifecycle

I

DEFINITIONS

II

PLANNING  
PHASE

III

RESEARCH  
PHASE

IV

USER  
PHASE

V

LEGISLATION  
& POLICY

VI

DATA  
SUPPORT

Research data

Essentials4data

5 modi per pensare i dati:

- come sono raccolti (esperimenti, simulazioni...)
- come si presentano (testi, questionari, video...)
- il loro formato elettronico (.txt, .mkv...)
- il loro volume (big data...)
- in che fase sono del ciclo (raw data...)



# Due pilastri, anzi tre

**DCC** because good research needs good data

Home Digital curation About us News Events Resources Training Projects Com

Home > Resources <http://www.dcc.ac.uk/resources>

### In this section

- Briefing Papers
- How-to Guides & Checklists
- Developing RDM Services
- Curation Lifecycle Model
- Curation Reference Manual
- Policy and legal
- Data Management Plans
- Tools
- Case studies
- Repository audit and assessment
- Standards
- Publications and presentations
- Roles
- Curation journals
- Informatics research
- External resources
- Online Store

### Resources for digital curators

With just a few clicks, you can access any of the data curation resources collected by the DCC since we opened our doors in 2004.

Our comprehensive and easily accessible digital library is completely free to use and aims to provide you with everything you need to evaluate and implement those digital curation techniques most suited to your particular research project.

What's more, we regularly review and update our library, adding the latest resources developed for data curators.

Select from the links below and left to access high-level digital curation briefing papers; legal watch, standards watch and technology watch papers; case studies and interviews; and instalments from our detailed Curation Reference Manual.

#### International Journal of Digital Curation

Our highly regarded digital journal, published twice a year, features general articles and peer reviewed papers and serves as an invaluable channel for the

ands AUSTRALIAN NATIONAL DATA SERVICE

About ANDS | Events | Contact Us <https://www.ands.org.au/>

About us News and Events Partners and Communities Working with data Online Services Guides and resources

## Findable Accessible Interoperable Reusable

### Is your data FAIR?

Find out how the FAIR principles can help you maximise the value of data

Data Archiving and Networked Services

Nederlands Contact Search this website <https://dans.knaw.nl/en>

DANS

HOME DEPOSIT SEARCH TRAINING AND CONSULTANCY PROJECTS ABOUT DANS NEWS AND EVENTS

## Welcome at DANS: the Netherlands institute for permanent access to digital research resources.

What can we do for you?

- ARCHIVING**  
Deposit your datasets in DataverseNL or EASY or send research data for NARCIS. [DEPOSIT](#)
- REUSE**  
Find datasets, publications, researchers, projects and institutions via NARCIS and EASY. [SEARCH](#)
- TRAINING & CONSULTANCY**  
Let DANS advise you on data management and certification of digital archives. [ADVICE FROM DANS](#)

**SPOTLIGHT**  
DRYAD and DANS partner for long-term preservation research data

**NEWS**  
CoreTrustSeal certification launched

Dryad and DANS announce a new collaboration to ensure long-term preservation and accessibility to curated scientific data. Over 50,000 researchers who have already deposited research data with Dryad can count on continuous open access to their data packages with an extra layer of security and recoverability as a result of this partnership.

The Data Seal of Approval (DSA) and ICSU World Data System (WDS) announce the launch of a new certification organization: CoreTrustSeal.

DANS Retweeted  
Marta Terepek  
Nice demo by @pkdoom  
@DANSKNANW - tool to help historians decide which @iRe3data repository to use to archive their datasets: ddrs-dev.danah.eu #dccc18

Feb 20, 2018



# ...una via veloce

Au Loup Garou Gourmand  
La Maison des  
100 Bières Bretonnes

escience  
vidensport <https://vidensportal.deic.dk/RDMeLearn>

eScience Få styr på data Supercomputing Træningskurser Om os Podcasts

Item » Få styr på data » eLearning course about the importance of good research data management (RDM)




### eLearning course about the importance of good research data management (RDM)

Within the framework of the Danish National Forum for Data Management, the Danish Universities have developed the eLearning course "Research Data Management".

LO STIAMO  
TRADUCENDO IN  
ITALIANO

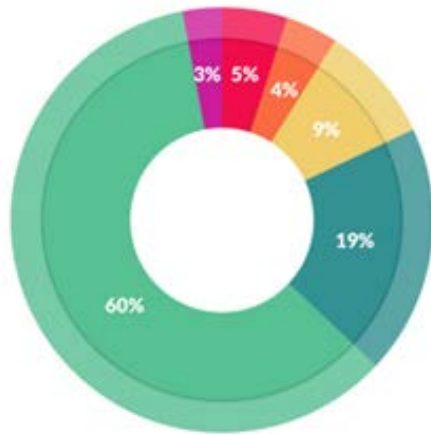
Take the course

90% of the world's data was created within the last two years

Module 1: Introduction	Module 2: FAIR principles	Module 3: Data Management Plans
		
<p><b>Reference:</b> Viachos, E., Larsen, A.V., Zürcher, S., Hansen, A.F. (2019). 'Introduction'. In: Holmstrand, K.F., den Boer, S.P.A., Viachos, E., Martínez-Lavanchy, P.M., Hansen, K.K. (Eds.), <i>Research Data Management</i> (eLearning course). doi: 10.11581/dtu.00000048</p>	<p><b>Reference:</b> Martínez-Lavanchy, P.M., Hüser, F.J., Buss, M.C.H., Andersen, J.J., Begtrup, J.W. (2019). 'FAIR Principles'. In: Holmstrand, K.F., den Boer, S.P.A., Viachos, E., Martínez-Lavanchy, P.M., Hansen, K.K. (Eds.), <i>Research Data Management</i> (eLearning course). doi: 10.11581/dtu.00000049</p>	<p><b>Reference:</b> den Boer, S.P.A., Buss, M.C.H., Hüser, F.J., Smed, U. (2019). 'Data Management Plans'. In: Holmstrand, K.F., den Boer, S.P.A., Viachos, E., Martínez-Lavanchy, P.M., Hansen, K.K. (Eds.), <i>Research Data Management</i> (eLearning course). doi: 10.11581/dtu.00000050</p>

Club  
Passion  
PANTHER  
TOUR FINISTERE  
19-21 AOUT 2013

# Costi



What data scientists spend the most time doing

- Building training sets: 3%
- Cleaning and organizing data: 60%
- Collecting data sets: 19%
- Mining data for patterns: 9%
- Refining algorithms: 4%
- Other: 5%

Data science report, 2016, cit. by Erik Schultes



Cost of not having FAIR research data

Cost-Benefit analysis for FAIR research data

*Following this approach, we found that the annual cost of not having FAIR research data costs the European economy at least €10.2bn every year. In addition, we also listed a number of consequences from not having FAIR which could not be reliably estimated, such as an impact on research quality, economic turnover, or machine readability of research data. By drawing a rough parallel with the European open data economy, we concluded that these unquantified consequences are on top of what we estimated. The interviews with the subject matter experts suggest that the total cost is at least 16 bn annually on top of the 10,2 bn estimated for another €16bn annually on combination of desk research, interviews, and conservative assumptions.*

10,2 bn

16 bn

---

26,2 bn

**CI SONO COSTI PER CONSERVARE E GESTIRE I DATI...  
MA PENSIAMO A QUANTO COSTEREBBE  
NON CONSERVARLI E NON GESTIRLI**





...un passo indietro...

# [il fondamento]

## Information Guide: Introduction to Ownership of Rights in Research Data. CREATE, University of Glasgow, 2018

Burrow, S. , Margoni, T.  and McCutcheon, V.  (2018) Information Guide: Introduction to Ownership of Rights in Research Data. CREATE, University of Glasgow, 2018. Documentation. University of Glasgow. <http://eprints.gla.ac.uk/171314/>



Guides for Researchers

How do I know if my research data is protected?

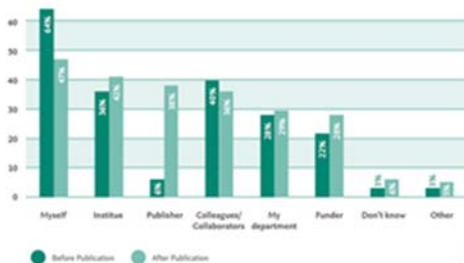
Learn more about what is research data and their protection by intellectual property rights

OpenAIRE

I DATI NON SONO «MIEI»  
NON ESISTE COPYRIGHT  
PERCHÉ NON SONO CREATIVI

This time though it happened. What it was: 64% of researchers believe they own the data they generated for their research.

Figure 3. Research data ownership before and after publication (%; n=1162)



The result comes from a **solid piece of academic research** based on equally solid (open) data. The study and the report 'Open Data - the Researcher Perspective' were done by **CWTS / Leiden** and **Elsevier**. Credit giving, check.

Of course, the study reports other equally surprising results



Wainer Lusoli

@w\_lusoli

Following

repeat with me: [#researchdata](#) is NOT mine. I was paid to get it, I'll get a [#nobel](#) 4 it, but it's NOT mine [linkedin.com/pulse/repeat-m ...](https://www.linkedin.com/pulse/repeat-m...)  
[#opendata](#)

Traduci dalla lingua originale: inglese



### Repeat with me: research data is not mine

Seldom do I see something that truly shakes me at work. You know, work is work, I am no neurosurgeon, no médecin sans frontières nor am I a social

[linkedin.com](https://www.linkedin.com)

11:18 - 12 apr 2017

14 Retweet 18 Mi piace



Lusoli, Apr.2017

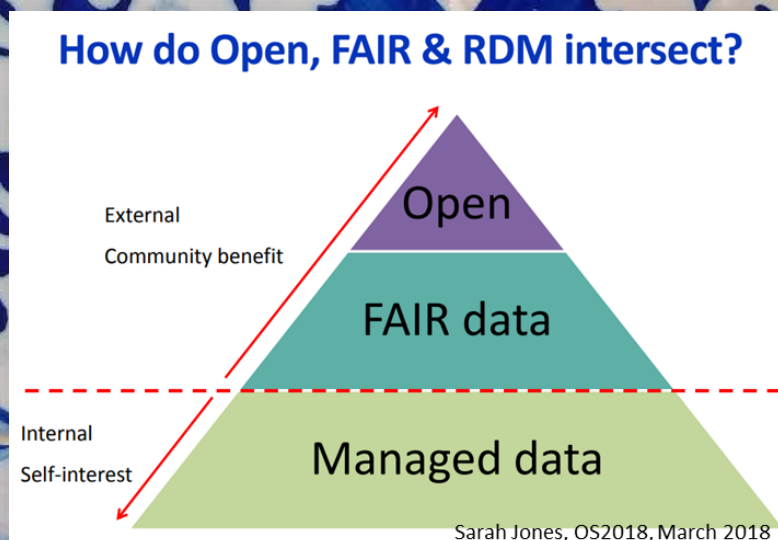


[ricordandosi che ci sono 3 passi]

Open

FAIR

Gestione/Cura





# 1. I DATI VANNO CURATI

Data management is an active process by which digital resources remain discoverable, accessible and intelligible over the longer term, a process that invests data and datasets with the potential to accrue value as assets enjoying far wider use than their creators may have anticipated. In the world of research, such a value-adding process is a significant contributor to the much desired achievement of impact.

ORGANIZZAZIONE  
(file naming,  
versioning...)

METADATI

BACKUP E  
STORAGE

CONSERVAZIONE  
SUL LUNGO  
PERIODO

ASPETTI LEGALI



# 2. I DATI DEVONO ESSERE FAIR

## TO BE FINDABLE:

- F1. (meta)data are assigned a globally unique and eternally persistent identifier.
- F2. data are described with rich metadata.
- F3. (meta)data are registered or indexed in a searchable resource.
- F4. metadata specify the data identifier.

## TO BE ACCESSIBLE:

- A1 (meta)data are retrievable by their identifier using a standardized communications protocol.
- A1.1 the protocol is open, free, and universally implementable.
- A1.2 the protocol allows for an authentication and authorization procedure, where necessary.
- A2 metadata are accessible, even when the data are no longer available.

## TO BE INTEROPERABLE:

- I1. (meta)data use a formal, accessible, shared, and broadly applicable language for
- I2. (meta)data use vocabularies that follow FAIR principles.
- I3. (meta)data include qualified references to other (meta)data.

## TO BE RE-USABLE:

- R1. meta(data) have a plurality of accurate and relevant attributes.
- R1.1. (meta)data are released with a clear and accessible data usage license.  
<https://www.force11.org/group/fairgroup/fairprinciples>
- R1.2. (meta)data are associated with their provenance.
- R1.3. (meta)data meet domain-relevant community standards.

open  
data  
is about  
MORE  
THAN  
DISCLOSURE  
it must be  
Fair

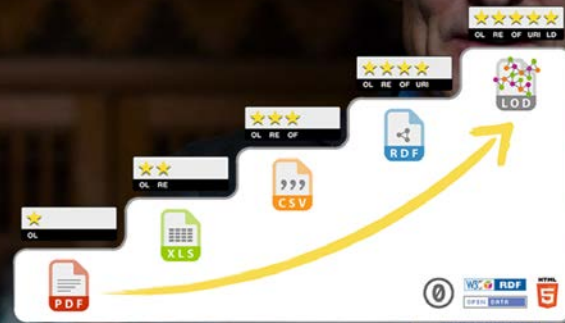
- Findable
- Accessible
- Interoperable
- Reusable

«ACCESIBLE» NON SIGNIFICA  
«OPEN». SIGNIFICA SOLO  
DICHIARARE LE CONDIZIONI  
SECONDO CUI I DATI SONO  
ACCESSIBILI

# 3. I DATI POSSONO ESSERE OPEN

## 5 ★ OPEN DATA

Tim Berners-Lee, the inventor of the Web and Linked Data initiator, suggested a 5-star deployment scheme for Open Data. Here, we give examples for each step of the stars and explain costs and benefits that come along with it.



★ make your stuff available on the Web (whatever format) under an open license<sup>1</sup>

★★ make it available as structured data (e.g., Excel instead of image scan of a table)<sup>2</sup>

★★★ make it available in a non-proprietary open format (e.g., CSV instead of Excel)<sup>3</sup>

★★★★ use URIs to denote things, so that people can point at your stuff<sup>4</sup>

★★★★★ link your data to other data to provide context<sup>5</sup>



# 1. GESTIONE DEI DATI



because good research needs good data





# Data Management expert guide



## Data Management Expert Guide

- 1. Plan >
- 2. Organise & Document >
- 3. Process >
- 4. Store >
- 5. Protect >
- 6. Archive & Publish >
- 7. Discover >



## Plan

In this introductory tour, you will become aware of what data management and a data management plan (DMP) are and why they are important. General concepts such as social science data and FAIR data will be explained. Based on our recommendations and good practice examples, you will be able to start writing your DMP.

## Organise & Document

If you are looking for good practices in designing an appropriate data file structure, naming, documenting and organising your data files within suitable folder structures, this chapter is for you.

## Process

## Store

To be able to plan a storage and backup strategy, you will learn about different storage and backup solutions and their advantages and disadvantages. Also, measures to protect your data from unauthorised access with strong passwords and encryption will be explained.

## Protect

This chapter highlights your legal and ethical obligations and shows how a combination of gaining consent, anonymising data, gaining clarity over who owns the copyright to your data and controlling access can enable the ethical and legal sharing of data.

## Archive & Publish

When you arrive at this chapter you will have learnt to differentiate between currently available data publication services. You will also find a number of stepping stones on how to promote your data.

## Discover

How can you discover and reuse existing or previously collected datasets?

# Data management ABC – File naming



## File naming conventions

The conventions comprise the following 13 rules. Follow the links for examples and explanations of the rules.

1. Keep file names short, but meaningful
2. Avoid unnecessary repetition and redundancy in file names and file paths.
3. Use capital letters to delimit words, not spaces or underscores
4. When including a number in a file name always give it as a two-digit number, i.e. 01-99, unless it is a year or another number with more than two digits.
5. If using a date in the file name always state the date 'back to front', and use four digit years, two digit months and two digit days: YYYYMMDD or YYYYMM or YYYY or YYYY-YYYY.
6. When including a personal name in a file name give the family name first followed by the initials.
7. Avoid using common words such as 'draft' or 'letter' at the start of file names, unless doing so will make it easier to retrieve the record.
8. Order the elements in a file name in the most appropriate way to retrieve the record.
9. The file names of records relating to recurring events should include the date and a description of the event, except where the inclusion of any of either of these elements would be incompatible with rule 2.
10. The file names of correspondence should include the name of the correspondent, an indication of the subject, the date of the correspondence and whether it is incoming or outgoing correspondence, except where the inclusion of any of these elements would be incompatible with rule 2.
11. The file name of an email attachment should include the name of the correspondent, an indication of the subject, the date of the correspondence, 'attach', and an indication of the number of attachments sent with the covering email, except where the inclusion of any of these elements would be incompatible with rule 2.
12. The version number of a record should be indicated in its file name by the inclusion of 'V' followed by the version number and, where applicable, 'Draft'.
13. Avoid using non-alphanumeric characters in file names.



# Data management ABC – Versioning

## University of Leicester

### Good Practice and Guidance – Document Version Control Chart (Draft)

#### 1. Create Document/File

- Save the document according to file naming guidance/good practice.

#### 2. Document Identification

- Identify on the document e.g. in header or footer, the author, filename, page number and date the document is created/revised.

#### 3. Version Control Table

- Versions and changes documented with Version Control Table where significant/formal/project based.

#### 4. Version Number

- Current version number identified on the first page and where appropriate, incorporated into the header or footer of the document.
- Version number is included as part of the file name.

#### 5. First Draft Version

- Named as version "0-1" (no full stops in electronic file names).
- Subsequent draft versions 0-2, 0-3, 0-4 ...

#### 6. First Final/Approved Version

- When document is final/approved it becomes version 1-0.

#### 7. Changes to Final Version

- Changed/revised final version becomes x-1.
- Subsequent drafts to Final version become e.g. 1-1, 1-2, 1-3 etc.

#### 8. Further Final/Approved Documents

- Version number increased by "1-0" e.g. 1-0, 2-0, 3-0 etc.
- e.g. Amendments to Final 1-0 are 1-1, 1-2, 1-3 and as approved becomes 2-0.

# Data Management

## Support Your Data: A Research Data Management Guide for Researchers

▼ John A Borghi, Stephen Abrams, Daniella Lowenberg, Stephanie Simms, John Chodacki

### Abstract ▲

Researchers are faced with rapidly evolving expectations about how they should manage and share their data, code, and other research materials. To help them meet these expectations and generally manage and share their data more effectively, we are developing a suite of tools which we are currently referring to as "Support Your Data". These tools, which include a rubric designed to enable researchers to self-assess their current data management practices and a series of short guides which provide actionable information about how to advance practices as necessary or desired, are intended to be easily customizable to meet the needs of a researchers working in a variety of institutional and disciplinary contexts.

#### Suppl. material 5: Draft Guide - Preparing [doi](#)

**Authors:** John Borghi

**Data type:** OpenDocument Text (.odt) file

**Brief description:** A draft guide that corresponds with the "Getting your data ready for analysis" row of the RDM rubric. Suggested points of customization are highlighted in yellow (discipline-specific) and red (institution-specific).

**Filename:** Draft Guide - Preparing.odt

[Download file](#) (59.52 kb)

#### Suppl. material 6: Draft Guide - Analyzing [doi](#)

**Authors:** John Borghi

**Data type:** OpenDocument Text (.odt) file

**Brief description:** A draft guide that corresponds with the "Analyzing your data and handling the outputs" row of the RDM rubric. Suggested points of customization are highlighted in yellow (discipline-specific) and red (institution-specific).

**Filename:** Draft Guide - Analyzing.odt

[Download file](#) (51.82 kb)

#### Suppl. material 7: Draft Guide - Sharing [doi](#)

**Authors:** John Borghi

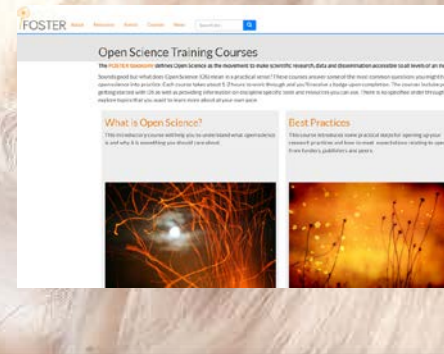
**Data type:** OpenDocument Text (.odt) file

**Brief description:** A draft guide that corresponds with the "Sharing and publishing your data" row of the RDM rubric. Suggested points of customization are highlighted in yellow (discipline-specific) and red

	Ad Hoc	One-Time	Active and Informative	Optimized for Re-Use
<b>Planning your project</b>	When it comes to my data, I have a "way of doing things" but no standard or documented plans.	I create some formal plans about how I will manage my data at the start of a project, but I generally don't refer back to them.	I develop detailed plans about how I will manage my data that I actively revisit and revise over the course of a project.	I have created plans for managing my data that are designed to stream its future use by myself or others.
<b>Organizing your data</b>	I don't follow a consistent approach for keeping my data organized, so it often takes time to find things.	I have an approach for organizing my data, but I only put it into action after my project is complete.	I have an approach for organizing my data that I implement prospectively, but it not necessarily standardized.	I organize my data so that others can navigate, understand, and use it without me being present.
<b>Saving and backing up your data</b>	I decide what data is important while I am working on it and typically save it in a single location.	I know what data needs to be saved and I back it up after I'm done working on it to reduce the risk of loss.	I have a system for regularly saving important data while I am working on it. I have multiple backups.	I save my data in a manner and location designed maximize opportunities for re-use by myself and others.
<b>Getting your data ready for analysis</b>	I don't have a standardized or well documented process for preparing my data for analysis.	I have thought about how I will need to prepare my data, but I handle each case in a different manner.	My process for preparing data is standardized and well documented.	I prepare my data in such a way as to facilitate use by both myself and others in the future.
<b>Analyzing your data and handling the outputs</b>	I often have to redo my analyses or examine their products to determine what procedures or parameters were applied.	After I finish my analysis, I document the specific parameters, procedures, and protocols applied.	I regularly document the specifics of both my analysis workflow and decision making process while I am analyzing my data.	I have ensured that the specifics of my analysis workflow and decision making process can be understood and put into action by others.



# Imparare a gestire



Data-driven research is becoming increasingly common in a wide range of academic disciplines, from Archaeology to Zoology, and spanning Arts and Science subject areas alike. To support good research, we need to ensure that researchers have access to good data. Upon completing this course, you will:

- understand which data you can make open and which need to be protected
- know how to go about writing a data management plan
- understand the FAIR principles
- be able to select which data to keep and find an appropriate repository for them
- learn tips on how to get maximum impact from your research data

[Start the Free Course](#)

<https://www.fosteropenscience.eu/node/2328>



## Full details

**Level of knowledge:** Introductory: no previous knowledge is required

## Topics



# Comparare a proteggere



## What are personal data?

Click the plus sign to expand the text box

- + What are personal data?
- + Protecting personal data
- + Legal requirements - EU General Data Protection Regulation (GDPR)
- + Legal requirements - GDPR research exemptions

This course covers data protection in particular and ethics more generally. It will help you understand the basic principles of data protection and introduces techniques for implementing data protection in your research processes. Upon completing this course, you will know:

- what personal data are and how you can protect them
- what to consider when developing consent forms
- how to store your data securely
- how to anonymise your data

[Start the Free Course](#)



### Full details

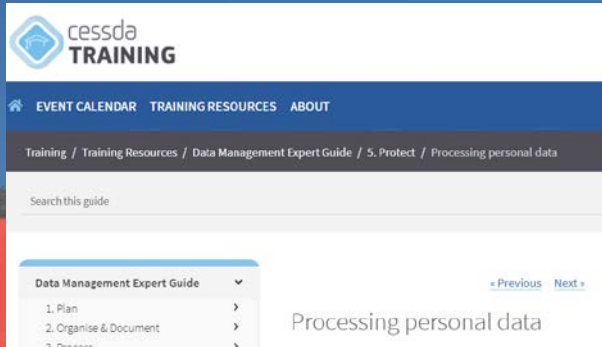
Level of knowledge: Introductory: no previous knowledge is required

### Topics





# [dati personali]



## I. Process lawfully, fair and transparent



The participant is informed of what will be done with the data and data processing should be done accordingly.

## II. Keep to the original purpose



Data should be collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes.

## III. Minimise data size



Personal data that are collected should be adequate, relevant and limited to what is necessary.

## IV. Uphold accuracy



Personal data should be accurate and, where necessary kept up to date. Every reasonable step must be taken to ensure that personal data that are inaccurate are erased or rectified without delay.

## V. Remove data which are not used



Personal data should be kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed.

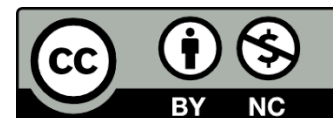
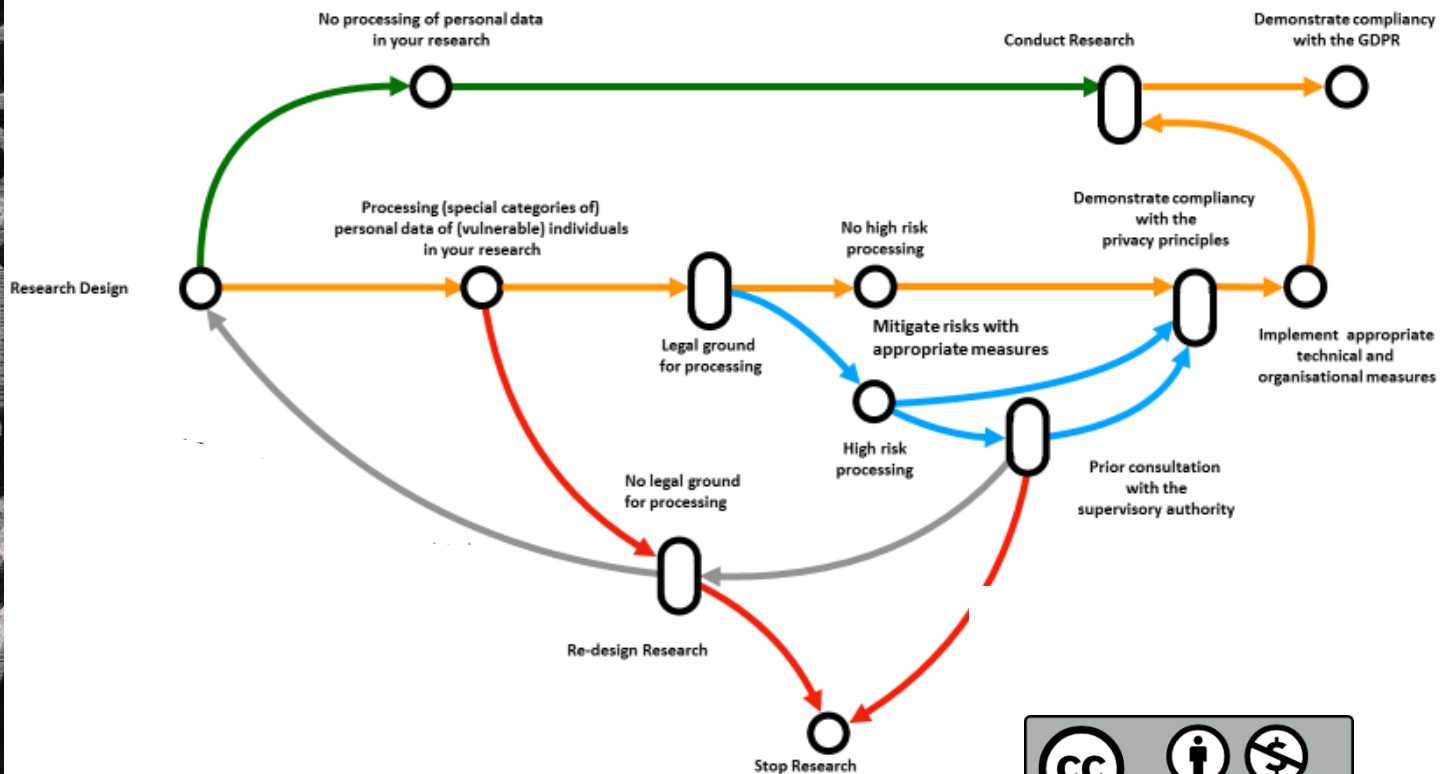
## VI. Ensure data integrity and confidentiality



Personal data are processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.

# [Date GDPR]

## The Privacy Impact Assessment (PIA) Route Planner for Academic Research Inspired by Harry Beck's London Metro Map





# The Logic of a Privacy Impact Assessment (PIA) for Academic Research

Q1. Do you process (special categories of) personal data of (vulnerable) individuals in your research?



**YES**

**NO**  
Proceed - no measures required for safeguarding privacy.

**"Personal Data" (GDPR\*, Article 4):**  
Any information relating to an identified or identifiable natural person: a name, an identification number, location data, an online identifier, one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

**"Special Categories of Personal Data (Sensitive Data)" (GDPR, Article 9):**  
Data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation.

**Action**

**Records of processing activities (GDPR\*, Article 30):**

The university shall maintain a digital record of the processing activities in your research to demonstrate compliancy to the GDPR. This register contains:

1. The name and contact details of the researcher, the research partners and service providers;
2. The purposes of the processing;
3. A description of the categories of data subjects and of the categories of personal data;
4. The categories of recipients to whom the personal data have been or will be disclosed.

Q2. What is the legal ground for this processing?

**Lawfulness of Processing (GDPR\*, Article 6, 89):**

1. The individuals participating in your research have freely given their explicit consent for one or more specific purposes.
2. Your research contributes to a legitimate interest, yet results in no high risks for the individuals participating in the research.
3. Your research has a scientific, historical or statistical purpose, yet results in no high risks for the individuals participating in the research.

**Action**

**Data protection by design and by default (GDPR\*, Article 25):**

Implement appropriate technical and organisational measures:

1. **Individual participating in your research (data subject).** Is the participant well informed, aware of possible risks for her/him and aware of the purpose of the research?
2. **Data.** Is the data de-identified and encrypted?
3. **Access Management.** How is access managed and controlled for the PI / team (expanded) / public?
4. **Software / Platform.** Are the *Terms of Service* for used software / platform checked (where is the data and who has access and has which usage rights)?
5. **Devices.** Are devices used safe? Encrypted drive, encrypted communication, strong password / two factor authentication.
6. **Partners.** Are the research partners / service partners trusted and are appropriate legal agreements made, with regards to roles, rights and responsibilities?
7. **Safe and secure collaboration.** Is the ((cross border) communication to, in and from the) collaboration platform end to end encrypted, are roles and permissions defined and implemented, is logging and monitoring implemented?

**YES**

**NO**  
Stop research or redefine research.

Q3. Is this processing a high risk processing?

**Criteria for high risk processing (WP29 - DPIA Guideline\*\*):**

1. Evaluation or scoring
2. Automated-decision making with legal or similar significant effect
3. Systematic monitoring
4. Sensitive data or data of a highly personal nature
5. Data processed on a large scale
6. Matching or combining datasets
7. Data concerning vulnerable data subjects
8. Innovative use or applying new technological or organisational solutions
9. When the processing itself prevents data subjects from exercising a right or using a service or a contract

**YES**

**NO**  
Proceed - measures required for safe-guarding privacy.

**Action**

**Prior consultation (GDPR\*, Article 36):**

1. The Data Protection Officer shall, on behalf of the researcher, consult the supervisory authority, prior to the processing (the research) when the processing would result in a high risk *in the absence of measures* to mitigate the risk.

**Action**

**Principles relating to processing of personal data (GDPR\*, Article 5):**

Demonstrate compliancy with the principles: lawfulness, fairness, transparency, purpose limitation, data minimisation, accuracy, storage limitation, integrity, confidentiality and accountability.

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). Online available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN>  
 \*\* Article 29 Data Protection Working Party: *Guidelines on Data Protection Impact Assessment (DPIA) and determining whether processing is "likely to result in a high risk" for the purposes of Regulation 2016/679.* Adopted on 4 April 2017. As last Revised and Adopted on 4 October 2017. Online available at: [https://ec.europa.eu/newsroom/document.cfm?doc\\_id=47711](https://ec.europa.eu/newsroom/document.cfm?doc_id=47711)

# [anonimizzare i dati]

**OpenAIRE**

**AMNESIA**  
Anonymize your datasets

AMNESIA allows end users to anonymize sensitive data in order to share them with a broad audience. The service allows the user to guide the anonymization process and decide on a flexible trade-off between privacy guaranty and data utility. The service is offered through a web interface that allows users to explore the anonymized data visually. Moreover, the service detects duplicate anonymized files when they are uploaded to Zenodo.

data anonymization | research data management

**Homepage Service**

**Usage**

TECHNOLOGY READINESS LEVEL  
8 - system complete and qualified

LIFECYCLE STATUS Beta

**TARGET USERS**

Research communities, Research Infrastructures, Universities, Research Centers, Hospitals. Any commercial provider that produces data and wants to share them or outsource them.

**Service coverage**

Countries serviced by AMNESIA

<http://catalogue.openaire.eu/service/openaire.amnesia>

EXPLORE PROVIDE CONNECT

SERVICES SUPPORT OPEN SCIENCE IN EUROPE


Contractual Info

[Service level agreement](#) →  
[Terms of use](#) →

Support

[Helpdesk](#) →  
[User manual](#) →  
[Feedback](#) →  
[Training information](#) →





## 2. RENDERE I DATI FAIR



...dati FAIR...

Comment | OPEN

The FAIR Guiding Principles for scientific data management and stewardship

by Barend Mons

improve the infrastructure supporting the diverse set of stakeholders—representing agencies, and scholarly publishers—have jointly endorse a concise and measurable set of principles as the FAIR Data Principles. The intent is to provide a guideline for those wishing to enhance the data management practices. Distinct from peer initiatives that have focused on the FAIR Principles but specific emphasis

FAIR guide, Nature, March 2016

FORCE11  
The Future of Research Communications and e-Scholarship

ABOUT ▾ COMMUNITY ▾ GROUPS

FORCE11 » Groups » The FAIR Data Principles

**THE FAIR DATA PRINCIPLES**

Open data is about MORE THAN DISCLOSURE it must be Fair

- Findable
- Accessible
- Interoperable
- Reusable

F=METADATI, IDENTIFICATIVI  
PERSISTENTI...

A= TRUSTED REPOSITORIES, FORMATI

I=FORMATI APERTI, INTEROPERABILI

R=DOCUMENTAZIONE E LICENZE



# FAIR in a nut

- FAIR data training
- Findable
- Accessible
- Interoperable
- Reusable
- FAIR for Developers
- FAIR data self-assessment tool



F1. (meta)data are assigned a globally unique and et  
There are many resources created by the ARDC on the topic of metadata

- Metadata guide
- Data versioning

The ARDC has information on persistent identifiers on three different levels

- Persistent identifiers: awareness level
- Persistent identifiers: working level
- Persistent identifiers: expert level

It is also a provider of services for minting persistent identifiers of many d  
of the data being identified):

- Digital Object Identifier (DOI) System for research data
- Handle minting Service (Identify My Data)
- International Geo Sample Numbers (IGSN)

Complementary to the assignment of persistent identifiers is their proper



<b>Findable</b> 	<b>Persistent Identifiers (PIDs)</b> 	<b>Rich metadata</b> 	<b>Indexed data repositories</b> 	<b>PIDs in metadata</b> 
<b>Accessible</b> 	<b>Standard communications protocol</b> 	<b>Open, free protocol</b> 	<b>Authentication, where necessary</b> 	<b>Metadata is always available</b> 
<b>Interoperable</b> 	<b>Vocabularies</b> 	<b>Vocabularies are FAIR</b> 	<b>Linked metadata</b> 	
<b>Reusable</b> 	<b>Metadata have multiple attributes</b> 	<b>Usage license</b> 	<b>Provenance</b> 	<b>Community standards</b> 

# ... quanto siete FAIR?

## Findable

Does the dataset have any identifiers assigned?

No identifier

Is the dataset identifier included in all metadata records/files describing the data?

No

How is the data described with metadata?

The data is not described

What type of repository or registry is the metadata record in?

The data is not described in any repository

## Accessible

How accessible is the data?

No access to data or metadata

Is the data available online without requiring specialised protocols or tools once access has been approved?

No access to data

Will the metadata record be available even if the data is no longer available?

Unsure

The screenshot shows the ANDS Training website. The header includes the ANDS logo and navigation menus for 'About us', 'News and Events', 'Partners and Communities', 'Working with data', 'Online Services', and 'Guides and resources'. There are two search boxes: 'Search for Research Data' and 'Search the ANDS Site'. The main content area is titled 'Working with data' and features a sidebar with a 'The FAIR data principles' menu. The main text area is titled 'FAIR data training' and includes a list of resources: 'A basic checklist', 'The FAIR data self-assessment tool', 'Discussing the components via a process of transforming a dataset to be more FAIR', and 'Case studies of domain specific consideration of the principles'.



home

news

events

programs

about

## FAIR self-assessment tool

Welcome to the ARDC FAIR Data self-assessment tool. Using this tool you will be able to assess the 'FAIRness' of a dataset and determine how to enhance its FAIRness (where applicable).

<https://www.ands-nectar-rds.org.au/fair-tool>



# FAIR maturity evaluator

## The FAIR Maturity Evaluation Service

Public Entry Points:

[Browse existing Maturity Evaluations](#)

[Browse MI Test Collections \(Begin New Maturity Evaluation\)](#)

[Register a New MI Test Collection](#)

[Browse Maturity Indicator Tests](#)

[Register a new Maturity Indicator Test](#)

[Search for MI Tests and Test Collections](#)

<https://linkeddata.systems:3000/>

<https://tinyurl.com/MeasuringFAIR>



(Feel free to add comments during/after the talk)

Examining FAIR  
"Maturity"

Mark D Wilkinson  
CBGP UPM-INIA, Madrid, Spain

presenting the work of:  
Mark Wilkinson, Erik Schultes, Susanna Assunta  
Sansone, Ricardo de Miranda Azevedo, Luiz  
Olavo Bonino da Silva Santos, Philippe  
Rocca-Serra, Peter McQuilton, Dominique  
Battista, Michel Dumoulin



March 21, 2019

- OGGETTIVO
- MACHINE-READABLE ... COME I DATI FAIR

# FAIR Data management wizard

## Data Stewardship Wizard

- Data integration 7
- Data interpretation 3
- Information and insight 14



ELIXIR  
Data Stewardship Wizard

Smart Data Management Plans for FAIR Open Science

For serious researchers and data stewards

### Is there any pre-existing data?

Are there any data sets available?

Data Stewardship for C

- No
- Yes

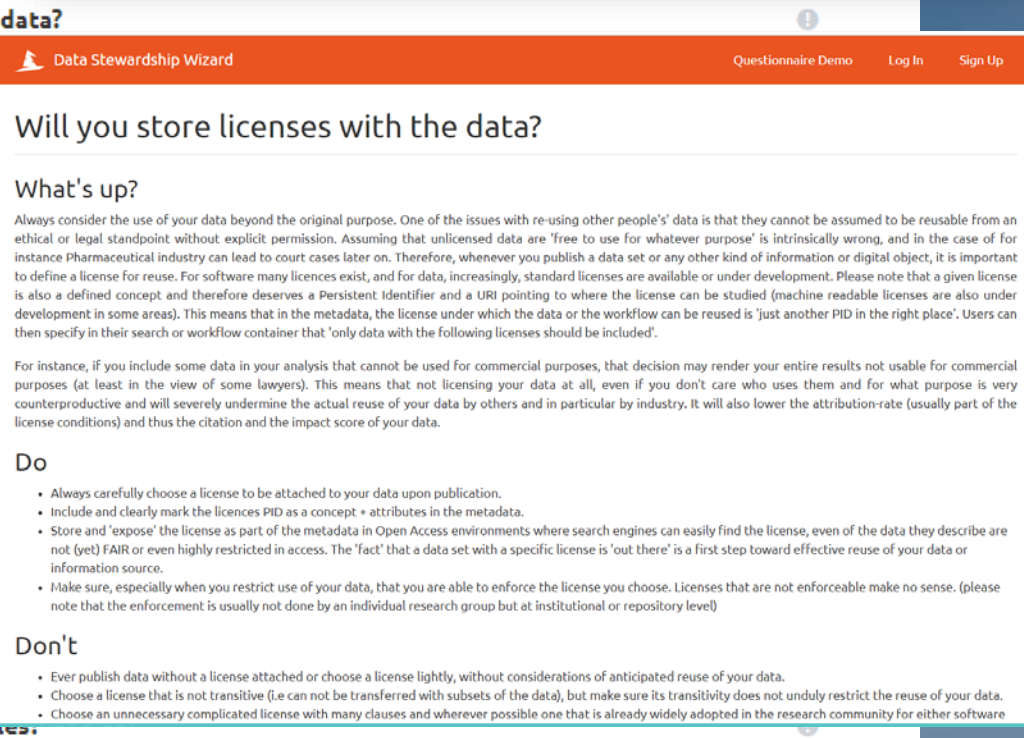
### Will reference data be created?

Will any of the data that you create be used by others?

Data Stewardship for C

- No
- Yes

### Will you be storing samples?



Data Stewardship Wizard

Questionnaire Demo Log In Sign Up

### Will you store licenses with the data?

What's up?

Always consider the use of your data beyond the original purpose. One of the issues with re-using other people's data is that they cannot be assumed to be reusable from an ethical or legal standpoint without explicit permission. Assuming that unlicensed data are 'free to use for whatever purpose' is intrinsically wrong, and in the case of for instance Pharmaceutical industry can lead to court cases later on. Therefore, whenever you publish a data set or any other kind of information or digital object, it is important to define a license for reuse. For software many licences exist, and for data, increasingly, standard licenses are available or under development. Please note that a given license is also a defined concept and therefore deserves a Persistent Identifier and a URI pointing to where the license can be studied (machine readable licenses are also under development in some areas). This means that in the metadata, the license under which the data or the workflow can be reused is 'just another PID in the right place'. Users can then specify in their search or workflow container that 'only data with the following licenses should be included'.

For instance, if you include some data in your analysis that cannot be used for commercial purposes, that decision may render your entire results not usable for commercial purposes (at least in the view of some lawyers). This means that not licensing your data at all, even if you don't care who uses them and for what purpose is very counterproductive and will severely undermine the actual reuse of your data by others and in particular by industry. It will also lower the attribution-rate (usually part of the license conditions) and thus the citation and the impact score of your data.

Do

- Always carefully choose a license to be attached to your data upon publication.
- Include and clearly mark the license PID as a concept + attributes in the metadata.
- Store and 'expose' the license as part of the metadata in Open Access environments where search engines can easily find the license, even if the data they describe are not (yet) FAIR or even highly restricted in access. The 'fact' that a data set with a specific license is 'out there' is a first step toward effective reuse of your data or information source.
- Make sure, especially when you restrict use of your data, that you are able to enforce the license you choose. Licenses that are not enforceable make no sense. (please note that the enforcement is usually not done by an individual research group but at institutional or repository level)

Don't

- Ever publish data without a license attached or choose a license lightly, without considerations of anticipated reuse of your data.
- Choose a license that is not transitive (i.e. can not be transferred with subsets of the data), but make sure its transitivity does not unduly restrict the reuse of your data.
- Choose an unnecessary complicated license with many clauses and wherever possible one that is already widely adopted in the research community for either software



# F = Findable. Metadata standards

## Metadata

RDA | Metadata Directory

Edit this page

View the standards

View the extensions

View the tools

View the use cases

Browse by subject areas

Contribute

Add standards

Add extensions

Add tools

Add use cases

## Arts and Humanities [Edit](#)

- [Archaeology](#) [Edit](#)
- [Creative art and design](#) [Edit](#)
- [Heritage Studies](#) [Edit](#)
- [Historical and Philosophical Studies](#) [Edit](#)
- [History by Area](#) [Edit](#)
- [History](#) [Edit](#)
- [Law](#) [Edit](#)
- [Music](#) [Edit](#)

## Engineering [Edit](#)

- [Architecture](#) [Edit](#)
- [Building Conservation](#) [Edit](#)

## Life Sciences [Edit](#)

- [Agricultural Economics](#) [Edit](#)
- [Agricultural Science](#) [Edit](#)
- [Animal pathology](#) [Edit](#)
- [Animal physiology](#) [Edit](#)
- [Biochemistry](#) [Edit](#)
- [Biodiversity](#) [Edit](#)
- [Bioengineering](#) [Edit](#)
- [Biogeography](#) [Edit](#)
- [Bioinformatics](#) [Edit](#)

## Physical Sciences & Mathematics [Edit](#)

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- [Astrophysics](#) [Edit](#)
- [Cartography](#) [Edit](#)
- [Chemistry](#) [Edit](#)
- [Climatology](#) [Edit](#)
- [Crystallography](#) [Edit](#)
- [Environmental Science](#) [Edit](#)
- [Geology](#) [Edit](#)
- [Geoscience](#) [Edit](#)
- [Glaciology](#) [Edit](#)
- [Hydrogeology](#) [Edit](#)
- [Hydrography](#) [Edit](#)
- [Hydrology](#) [Edit](#)
- [Marine Science](#) [Edit](#)
- [Maritime Geography](#) [Edit](#)
- [Materials Science](#) [Edit](#)
- [Meteorology](#) [Edit](#)
- [Minerology](#) [Edit](#)
- [Nuclear and Particle Physics](#) [Edit](#)
- [Oceanography](#) [Edit](#)
- [Palaeontology](#) [Edit](#)
- [Physics](#) [Edit](#)
- [Planetary science](#) [Edit](#)
- [Remote Sensing](#) [Edit](#)
- [Soil Science](#) [Edit](#)
- [Solar physics](#) [Edit](#)

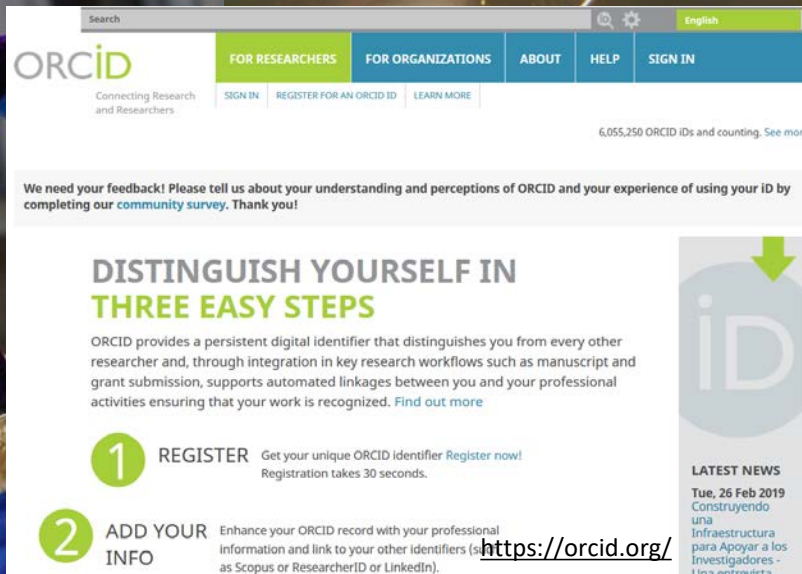
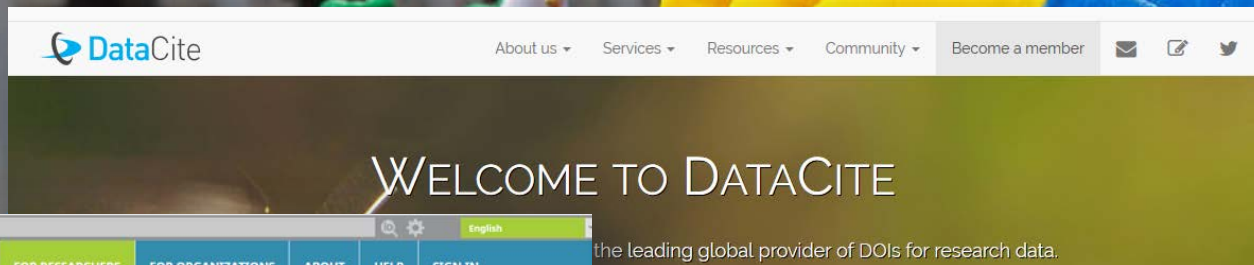
## Social and Behavioral Sciences [Edit](#)

- [Anthropology](#) [Edit](#)
- [Demography](#) [Edit](#)
- [Economics](#) [Edit](#)
- [Geography](#) [Edit](#)
- [Health Policy](#) [Edit](#)
- [Human and Social Geography](#) [Edit](#)
- [Planning \(Urban, Rural and Regional\)](#) [Edit](#)
- [Politics](#) [Edit](#)
- [Sociology](#) [Edit](#)

## General Research Data [Edit](#)

- [Multi-disciplinary](#) [Edit](#)

# F = Findable. Persistent identifiers



- USATE IL DOI  
- USATE ORCID





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 Organization or Institution (238)

Preventing HIV and HSV-2 through improving knowledge and attitudes: a replication study of a multi-component, community-based intervention in Zimbabwe  
 Feb 27, 2018 - Replication Studies Dataverse

Yu, Fang; Hein, Nicholas; Bagenda, Danstan, 2018. "Preventing HIV and HSV-2 through improving replication study of a multi-component, community-based intervention in Zimbabwe", doi:10.7910/Dataverse.V1

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 Restricted (528)  
 Embargoed (306)

File Type  
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 Pdf (117520)  
 Jpg (49381)  
 Zip (30738)

February 27, 2018 (v.0.9.7) Software Open Access  
 airr-community/airr-standards: Early revision of AIRR definitions  
 Ahmad Syed, Christian Busse, Uri Laserson, Scott Christley, Jason Vander  
 An early revision of the AIRR definitions with corresponding reference libra  
 Uploaded on February 27, 2018

February 27, 2018 (v.0.9.7) Software Open Access  
 gpertea/fqtrim: fqtrim release v0.9.7  
 Geo Pentea;  
 filtering and trimming next generation sequencing reads  
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**Open Science Framework**  
 A scholarly commons to connect the entire research community

**re3data.org**  
 REGISTRY OF RESEARCH DATA REPOSITORIES

Search... Search

## General depositories for rese

The following depositories are of interest to researchers i

- Zenodo (not-for-profit, hosted by CERN): <https://zenodo.org>
- Dryad (not-for-profit membership organisation): <https://www.dryad.org>
- Figshare (free service provided by private company): <https://www.figshare.com>
- Open Science Framework (not-for-profit, developed by Open Science<sup>1</sup>): <https://osf.io>
- Harvard Dataverse (not-for-profit, hosted by the Institute for Quantitative Social Studies IQSS at Harvard University): <https://dataverse.harvard.edu>



2,000 Data Repositories and Science Europe's Framework for Discipline-specific Research Data Management

By offering detailed information on more than 2,000 research data repositories, re3data has become the most comprehensive source of reference for research data infrastructures globally. Through the development and advocacy of a framework for discipline...

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Three new DOI Fabrica features to simplify account management

Last month we launched DOI Fabrica, the modernized version of the DataCite Metadata Store (MDS) web frontend. It is the one place for DataCite providers and their clients to create, find, connect and track every single DOI from their organization...

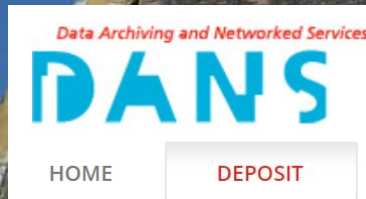
[Read more](#)

One step closer towards instant DOI search results

Art Art? You might be wondering, what this pink and green picture illustrates? A few months ago we couldn't show you this picture; the data that we used to create it, did not exist. And the answer to what this illustrates – this is simply a distorted...

[Read more](#)

# A = Accessible. Formati



Type	• Preferred format(s)	• Non-preferred format(s)
Text documents	<ul style="list-style-type: none"><li>• PDF/A (.pdf)</li></ul>	<ul style="list-style-type: none"><li>• ODT (.odt)</li><li>• MS Word (.doc, .docx)</li><li>• RTF (.rtf)</li><li>• PDF (.pdf)</li></ul>
Plain text	<ul style="list-style-type: none"><li>• Unicode text (.txt)</li></ul>	<ul style="list-style-type: none"><li>• Non-Unicode text (.txt)</li></ul>
Markup language	<ul style="list-style-type: none"><li>• XML (.xml)</li><li>• HTML (.html)</li><li>• Related files: .css, .xslt, .js, .es</li></ul>	<ul style="list-style-type: none"><li>• SGML (.sgml)</li></ul>
Spreadsheets	<ul style="list-style-type: none"><li>• ODS (.ods)</li><li>• CSV (.csv)</li></ul>	<ul style="list-style-type: none"><li>• MS Excel (.xls, .xlsx)</li><li>• PDF/A (.pdf)</li><li>• OOXML (.docx, .docm)</li></ul>
Databases	<ul style="list-style-type: none"><li>• SQL (.sql)</li><li>• SIARD (.siard)</li><li>• DB tables (.csv)</li></ul>	<ul style="list-style-type: none"><li>• MS Access (.mdb, .accdb) (v. 2000 or later)</li><li>• dBase (.dbf)</li><li>• HDF5 (.hdf5, .he5, .h5)</li></ul>
Statistical data	<ul style="list-style-type: none"><li>• SPSS Portable (.por)</li><li>• SPSS (.sav)</li><li>• STATA (.dta)</li><li>• DDI (.xml)</li><li>• data (.csv) + setup (.txt)</li></ul>	<ul style="list-style-type: none"><li>• SAS (.7dat; .sd2; .tpt)</li><li>• R (* under examination)</li></ul>
Raster images	<ul style="list-style-type: none"><li>• JPEG (.jpg, .jpeg)</li><li>• TIFF (.tif, .tiff)</li><li>• PNG (.png)</li><li>• JPEG 2000 (.jp2)</li></ul>	<ul style="list-style-type: none"><li>• DICOM (.dcm) (by mutual agreement)</li></ul>



# A = Accessible. Preservation



## Portable devices

Cloud storage

Local storage

Networked drives



Laptops, tablets, external hard-drives, flash drives and Compact Discs

### Advantages

- Allow easy transport of data and files without transmitting them over the Internet. This can be especially helpful when working in the field.
- Low-cost solution.

### Disadvantages/Risks

- Easily lost, damaged, or stolen and may, therefore, offer an unnecessary security risk.
- Not robust for long-term storage or master copies of your data and files.
- Possible quality control issues due to version confusion.

### Precautions for (sensitive) personal data

Use in cloud services  
encrypt data  
password protect

### Advantages

- Automatic backups.
- Often automatic version control.

### Disadvantages/Risks

- Not all cloud services are secure. May not be suitable for sensitive data containing personal information about EU citizens.
- Insufficient control over where the data is stored and how often it is backed up.
- Free services by commercial providers (e.g. Google Drive, Dropbox) may claim rights to use content you manage and share them for their own purposes.
- Data can be lost if your account is suspended or accidentally deleted, or if the provider goes out of business.

### Precautions for (sensitive) personal data

- Encrypt all (sensitive) personal data before uploading it to the cloud. This is particularly important to avoid conflict with European data protection regulations if you do not know in which countries servers used for storage and backup are located (see 'Security' for more information on encryption; also see 'Protecting data').

### Recommendations

- Do: use cloud services for granting shared, remote and easy access to data and other files to all involved in the project.
- Do: Read the terms of service. Especially focus on rights to use content given to the service provider.
- Do: Opt for European, national, or institutional cloud services which store data in Europe if possible.
  - B2drop (EUdat, n.d.) is an example of a European cloud storage solution.
  - SWITCHdrive (SWITCH, 2017) is a Swiss solution.
  - DataverseNL (Data Archiving and Networked Services, 2017) is an example of a service for Dutch researchers that allows the storage and sharing of data both during and after the research period.
- Don't: make this your only storage and backup solution.
- Don't: use for unencrypted (sensitive) personal data.

CESSDA Guide

ESIGENZE DIVERSE, STRUMENTI DIVERSI.

# I = Interoperable. Standards

FAIRsharing.org  
standards, databases, policies

Search all of FAIRsharing Standards Databases Policies Collections Add/Claim Content Stats Log In or Register

A curated, informative and educational resource on data and metadata *standards*, inter-related to *databases* and data *policies*.

HOW CAN WE HELP?

FAIRsharing.org  
standards, databases, policies

Search all of FAIRsharing Standards Databases Policies Collections Add/Claim Content Stats Log In or Register

Showing records 1 - 50 of 1294.

View as Table View as Grid

Sort by Name

Recommended Records

Associated Publication?

Claimed?

Record Status

Standard Type

Domains

Registry	Name	Abbreviation	Type	Subject	Domain	Taxonomy	Related Database	Related Standard	Related Policy	In Collection/Recommendation	Status
ABA	ABA Adult Mouse Brain	ABA	Standard	None	None	None	None	None	None	None	R
ABCD	Access to Biological Collection Data	ABCD	Standard	None	None	None	GBIF Atlas of Living Australia IPT - GBIF Australia Repository GBIF Spain IPT - GBIF Spain Repository GBIF Canada IPT - GBIF Canada Repository GBIF Colombia IPT - GBIF Colombia Repository Plus 1 more...	ABCD EFG ABCDFRFA	None	None	R
ABCO EFG	Access to Biological Collection Data Extended for Geoscientists	ABCO EFG	Standard	None	None	None	GeoCASA Data Portal	XSL ABCD	None	None	R
ABCCDFRA	Access to Biological Collection Data DNA extension	ABCCDFRA	Standard	None	None	None	GenBank	ABCD	None	None	R
ACE format	ACE format	ACE format	Standard	None	None	None	None	None	None	None	R
ADALAB	ADALAB ontology	ADALAB	Standard	None	None	None	None	None	None	None	R
EU-ADR ML	Achieve Drug Reaction Markup Language	EU-ADR ML	Standard	None	None	None	None	XSL	None	None	U

https://fairsharing.org

Natural Sciences 1120  
Biology 454

Addgene Addgene Database Life Sciences

Urbology Doorythonic Acid None GenBank Sequence Format RRID Photonics - Availability of FASTA

Data Citation Implementation eTRAKS Standards Starter Pack



# R = Riusable. Documentazione

- DA DOVE PROVENGONO I DATI?
- CHE STRUMENTI, REAGENTI, PROTOCOLLI HO USATO?
- CHE SOFTWARE HO USATO PER CREARLI?

PER ESSERE RIUSABILI I DATI DEVONO AVERE

- 1. DOCUMENTAZIONE**
- 2. LICENZE**



# R= Reusable. License

Copyright: protects the STRUCTURE, selection or arrangement of their contents" (Art. 3) NOT THE DATA

*Sui generis* database right: protects the «substantial effort» in OBTAINING data [NOT «CREATING»]... the right owner often is the institution

Database=a collection of independent works, data or other materials arranged in a systematic or methodical way (Art.1)



KEEP CALM

AND

RICORDA: NESSUN COPYRIGHT SUI DATI (NON CREATIVI)

DIRECTIVE 96/9/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 1996

on the legal protection of databases

COUNCIL OF THE EUROPEAN UNION, in the name of the European Community, and in particular Article 57 (2), 66 and 100a thereof,

Simone Aliprandi

2014

la QUALI DIRITTI SUI DATI?

semplici dati e informazioni

nessuna tutela

database non creativo

solo diritto sui generis

database creativo

diritto sui generis + diritto d'autore

livello diritto d'autore

livello diritto sui generis





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**Aspetti legali nella gestione dei dati della ricerca**

Thomas Margoni  
University of Glasgow - CREATE  
OpenAIRE project

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# Creative Commons



## FACT SHEET ON CREATIVE COMMONS & OPEN SCIENCE V0.1

This information guide contains questions and responses to common concerns surrounding open science and the implications of licensing data under Creative Commons licences. It is intended to aid researchers, teachers, librarians, administrators and many others using and encountering Creative Commons licences in their work.

<https://doi.org/10.5281/zenodo.840651>

### What is Open Science?

**Open Science** is the movement to make scientific research and data accessible to all for knowledge dissemination and public reuse.

### How should I licence my data for the purposes of Open Science?

We recommend you use the **CCO Public Domain Dedication**, which is first and foremost a waiver, but **can act as a licence** when a waiver is not possible.

from other forms of protection (like the [EU sui generis database right](#), also known as the 'SGDR', for non-original databases).

In these cases, using a Creative Commons licence such as a CC BY could signal to users that you claim a copyright in the non-original data despite the law, and perhaps despite your real intention.

Finally, if your data is in the public domain worldwide, you might state simply and obviously on the material that no restrictions attach to the reuse of your data and apply a [Public Domain Mark](#).

### CC ZERO LICENCE, 'NO RIGHTS RESERVED' LOGO



By applying CCO to your data you enable everyone to freely reuse your data as they see fit by waiving (giving up) your copyright and related rights in that data.

You should keep in mind that there are many situations in which data is **not** protected as a matter of law. Such data can include facts, names, numbers - things that are considered 'non-original' and part of the public domain thus not subject to copyright protections. Similarly, your database (which is a structured collection of data) might be considered 'non-original' and thus ineligible for copyright, and it might additionally be excluded

### PUBLIC DOMAIN MARK LOGO



When in doubt, consider which use may be appropriate according to the chart below:

### CCO & PUBLIC DOMAIN LICENCES WHICH LICENSE TO USE AND WHEN



'Creative arrangement' of data is original, but any copyright has been waived and content is made available copyright-free



'Creative arrangement' of data is not original; the author acknowledges this and communicates the data is in the public domain

## What is Open Science?

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from other forms of protection (like the [EU sui generis database right](#), also known as the 'SGDR', for non-original databases).

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Finally, if your data is in the public domain worldwide, you might state simply and obviously on the material that no restrictions attach to the reuse of your data and apply a [Public Domain Mark](#).

### PUBLIC DOMAIN MARK LOGO



When in doubt, consider which use may be appropriate according to the chart below:

### CCO & PUBLIC DOMAIN LICENCES WHICH LICENSE TO USE AND WHEN



'Creative arrangement' of data is original, but any copyright has been waived and content is made available copyright-free



'Creative arrangement' of data is not original; the author acknowledges this and communicates the data is in the public domain



# Commons e Op

**But I would like attribution when others use my dataset. In that case, shouldn't I use a CC BY licence?**

We recommend that you avoid using a CC BY licence. Here's why:

While attribution is a genuine, recognisable concern, not only might using a CC BY licence be legally unenforceable when no underlying copyright or SGDR protects the work, but it may also communicate the wrong message to the world. A better solution is to use CC0 and [simply ask for credit](#) (rather than require attribution), and provide a citation for the dataset that others can copy and paste with ease. Such requests are consistent with scholarly norms for citing source materials.

Legally speaking, datasets that are **not** subject to copyright or related rights (and are thus in the public domain) cannot be the object of a copyright licence. Despite this, agreements based in contract law may be enforceable. Creative Commons licences, however, are copyright licences. Therefore, where the conditions for a copyright or related right are not triggered, copyright licences, such as the CC BY licence, [are unenforceable](#).

In some cases, however, rights may exist (like the *sui generis* database right previously mentioned), and permission for others to use your dataset may be legally required. These rights are meant to protect the maker's investment, rather than originality. As such, database rights do not include the moral right of attribution. So by using a CC BY licence, you signal to users that you restrict access to your dataset beyond the protections provided by the law. We are not saying that this cannot be done, we are just saying that if you choose to do this, you should make sure you fully understand what it entails.

**USARE CC0**  
- **CHIEDERE CHE VENGA DATO CREDITO ALL'AUTORE**  
- **PROPORRE GIÀ LA CITAZIONE-TIPO (non citare la fonte è scorretto scientificamente)**

cannot be done, we are just saying that if you choose to do this, you should make sure you fully understand what it entails.

**I'm uncomfortable with others using my research for commercial purposes. Should I use a non-commercial licence for my dataset?**

We recommend you avoid using a non-commercial licence. Here's why:

For legal purposes, drawing a line between what is and is not 'commercial' can be tricky; it's not as black and white as you might think. For example, if you release a dataset under a non-commercial licence, it would clearly prohibit an organisation

**I'm uncomfortable permitting use of my research for any and all purposes. Should I use a 'No Derivatives' (ND) licence for my dataset?**

We recommend you avoid using a 'No Derivatives' licence. Here's why:

Similar to how a non-commercial licence might restrict meaningful reuse of your dataset, a ND licence can have the same effect: it may prevent someone from recombining and reusing your data for new research. For data to be truly Open Access, it must permit these important types of reuse.

**It sounds like you're really pushing for the use of CC0 for open science datasets.**

Exactly. Data is only open if anyone is free to use, reuse, and distribute it. This means it must be made available for both commercial and non-commercial purposes under non-discriminatory conditions that allow for it to be modified.

When data is made available for all reuse, others can create new knowledge from combining it. This leads to the enrichment of open datasets and further dissemination of knowledge. Accordingly, CC0 is ideal for open science as it both protects and promotes the unrestricted circulation of data

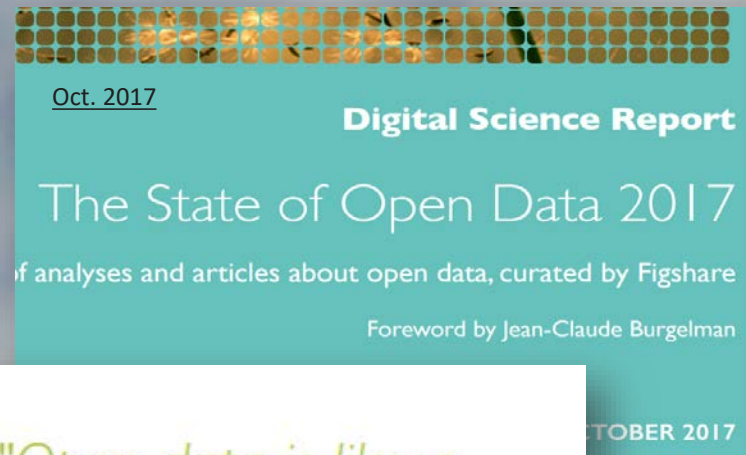
And remember, it's bad science not to cite the source of data you use. To help others cite your data [include a citation](#) that users can copy and paste to give you credit for your hard work.

# 3. APRIRE I DATI





# Perché Open Data?



 **Wilma van Wezenbeek**  
@wvanwezenbeek Following

#osc2018 @sjDCC I really like what Sarah said just now "There is more risk in losing your data than sharing your data #openscience"

Traduci il Tweet

11:14 - 13 mar 2018

10 Retweet 10 Mi piace 

<https://twitter.com/wvanwezenbeek/status/973502457115537408>

*"Open data is like a renewable energy source: it can be reused without diminishing its original value, and reuse creates new value."*

 **Carlos Moedas** ✓  
@Moedas + Segui

2/4 "Open as possible, as closed as necessary" is the new principle for all #data from publicly funded #research in Europe #openaccess

RETWEET 76 MI PIACE 32 

### **People will contact me to ask about stuff**

Christopher and Alex (C&A) say: "This is usually an objection of people who feel overworked and that [data sharing] isn't part of their job..." I would add to this that science is all about learning from each other – if a researcher is opposed to the idea of discussing their datasets, collaborating with others, and generally being a good science citizen, then they should be outed by their community as a poor participant.

### **People will misinterpret the data**

C&A suggest this: "Document how it should be interpreted. Be prepared to help and correct such people; those that misinterpret it by accident will be grateful for the help." From the UK Data Archive: "Producing good documentation and providing contextual information for your research project should enable other researchers to correctly use and understand your data."

It's worth mentioning, however, a second point C&A make: "Publishing may actually be useful to counter willful misrepresentation (e.g. of data acquired through Freedom of Information legislation), as one can quickly point to the real data on the web to refute the wrong interpretation."

### **My data is not very interesting**

C&A: "Let others judge how interesting or useful it is – even niche datasets have people that care about them." I'd also add that it's impossible to decide whether a dataset has value to future research. Consider the many datasets collected before "climate change" was a research topic which have now become invaluable to documenting and understanding the phenomenon. From the UK Data Archive:

YES, I KNOW. FRANKENSTEIN WAS THE DOCTOR, NOT THE MONSTER. FROM FLICKR BY CHOP SHOP GARAGE.

### **I might want to use it in a research paper**

Anyone who's discussed data sharing with a researcher is familiar with this excuse. The operative word here is *might*. How many papers have we all considered writing, only to have them shift to the back burner due to other obligations? That said, this is a real concern.

C&A suggest the embargo route: "One option is to have an automatic or optional embargo; require people to archive their data at the time of creation but it becomes public after X months. You could even give the option to renew the embargo so only things that are no longer cared about become published, but nothing is lost and eventually everything can become open." Researchers like to have a say in the use of their datasets, but I would caution to have any restrictions default to sharing. That is, after X months the data are automatically made open by the repository.

I would also add that, as the original collector of the data, you are at a huge advantage compared to others that might want to use your dataset. You have knowledge about your system, the conditions during collection, the nuances of your methods, et cetera that could never be fully described in the best metadata.

### **I'm not sure I own the data**

#### **My data is too complicated.**

C&A: "Don't be too smug. If it turns out it's not that complicated, it could harm your professional [standing]." I would add that if it's too complicated to share, then it's too complicated to reproduce, which means it's arguably not real scientific progress. This can be solved by more documentation.

#### **My data is embarrassingly bad**

C&A: "Many eyes will help you improve your data (e.g. spot inaccuracies)... people will accept your data for what it is." I agree. All researchers have been on the back end of making the sausage. We know it's not pretty most of the time, and we can accept that. Plus it helps you strive will be at managing and organizing data during your next collection phase.

#### **It's not a priority and I'm busy**

Good news! Funders are *making* it your priority! New sharing mandates in the OSTP memorandum state that any research conducted with federal funds must be accessible. You can expect these sharing mandates to drift down to you, the researcher, in the very near future (6-12 months).

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UN MODO  
STRUTTURATO DI  
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REGOLE CHIARE=MENO  
ERRORI DA SUBITO

È UN «LIVING DOCUMENT»,  
CRESCE COL PROGETTO

È FONDAMENTALE PER  
STIMARE I COSTI DI GESTIONE

Top tip - keep it short and specific! FOSTER toolkit

This very short extract from a presentation by Peter Dukes, Medical Research Council (MRC) back in 2012 provides really useful advice on writing a DMP from the funding body perspective. While it is an example from the Life Sciences, the advice applies to all disciplines. The quality of the video isn't great, unfortunately, but the advice provided definitely is!



Advice on writing Data Management Plans

Research Data Improved Data Management Plans

**4. Keep it simple**

- Informative: two audiences
- Specific: e.g. name standards
- Concise: < 1/4 to 3 pages
- Don't forget: your achievements & innovation

DOVE METTERE TUTTE QUESTE INFORMAZIONI?  
NEL DATA MANAGEMENT PLAN

# DMP Core Requirements

## CORE REQUIREMENTS FOR DATA MANAGEMENT PLANS



When developing solid data management plans, researchers are required to deal with the following topics and answer the following questions:

- 1. Data description and collection or re-use of existing data**
  - a. How will new data be collected or produced and/or how will existing data be re-used?
  - b. What data (for example the kinds, formats, and volumes) will be collected or produced?

---

- 2. Documentation and data quality**
  - a. What metadata and documentation (for example the methodology of data collection and way of organising data) will accompany data?
  - b. What data quality control measures will be used?

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- 3. Storage and backup during the research process**
  - a. How will data and metadata be stored and backed up during the research process?
  - b. How will data security and protection of sensitive data be taken care of during the research?

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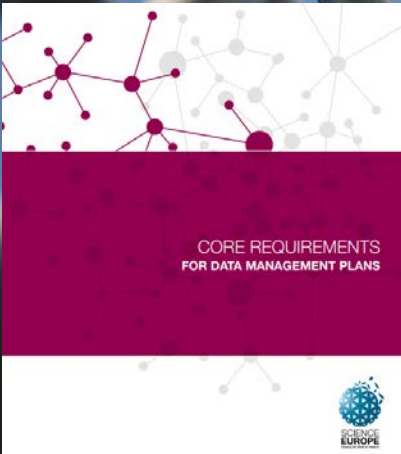
- 4. Legal and ethical requirements, codes of conduct**
  - a. If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?
  - b. How will other legal issues, such as intellectual property rights and ownership, be managed? What legislation is applicable?
  - c. How will possible ethical issues be taken into account, and codes of conduct followed?



- 5. Data sharing and long-term preservation**
  - a. How and when will data be shared? Are there possible restrictions to data sharing or embargo reasons?
  - b. How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?
  - c. What methods or software tools will be needed to access and use the data?
  - d. How will the application of a unique and persistent identifier (such as a Digital Object Identifier (DOI)) to each data set be ensured?

---

- 6. Data management responsibilities and resources**
  - a. Who (for example role, position, and institution) will be responsible for data management (i.e. the data steward)?
  - b. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?





# DMP questions



**Overview**

PLAN

---

**Title of the project**

---

**Date of this plan**

---

**Description of the project**

- What is the nature of the project?
- What is the research question?
- What is the project time line?

---

**Origin of Data**

- What kind of data will be used during the project?
- If you are reusing existing data: What is the scope, volume and format? How are different data sources integrated?
- If you are collecting new data can you clarify why this is necessary?

---

**Principal researchers**

- Who are the main researchers involved?
- What are their contact details?

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**Collaborating researchers (if applicable)**

- What are their contact details and their roles in the project?

---

**Funder (if applicable)**

- If funding is granted, what is the reference number of the funding granted?

---

**Data producer**

- Which organisation has the administrative responsibility for the data?

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**Project data contact**

- Who can be contacted about the project after it has finished?

---

**Data owner(s)**

- Which organisation(s) own(s) the data?
- If several organisations are involved, which organisation owns what data?

---

**Roles**

- Who is responsible for updating the DMP and making sure that it's followed?
- Do project participants have any specific roles?
- What is the project time line?

---

**Costs**

- Are there costs you need to consider to buy specific software or hardware?
- Are there costs you need to consider for storage and backup?
- Are potential expenses for (preparing the data for) archiving covered?

**Organising and documenting your data**

ORGANISE & DOCUMENT

---

**Data collection**

- How will the data be collected?
- Is specific software or hardware or staff required?
- Who will be responsible for the data collection?
- During which period will the data be collected?
- Where will the data be collected?

---

**Data organisation**

- How will you organise your data?
- Will the data be organised in simple files or more complex databases?
- How will the data quality during the project be ensured?
- If data consists of many different file types (e.g. videos, text, photos), is it possible to structure the data in a logical way?

---

**Data type and size**

- What type(s) of data will be collected?
- What is the scope, quantity and format of the material?
- After the project: What is the total amount of data collected (in MB/GB)?

---

**File format**

- In what format will your data be?
- Does the format change from the original to the processed/final data?
- Will your (final) data be available in an open format?

---

**Folder structure and names**

- How will you structure and name your folders?

---

**File structure and names**

- How will you structure and name your files?

---

**Documentation**

- What documentation will be created during the different phases of the project?
- How will the documentation be structured?

---

**Metadata**

- What metadata will be provided with the collected/ generated/ reused data?
- How will metadata for each object be created?
- Is there any program that can be used to document the data?
- Can metadata be added directly into the files or will the metadata be produced in another program or document?

---

**Metadata standard (if applicable)**

- What metadata standard(s) will you use?

## Making data findable (documentation and metadata management)

- What documentation and metadata will accompany the data (assist its discoverability)? (Details on methodology, definitions, procedures, SOPs, vocabularies, units, dependencies, etc)
- What information is needed for the data to be read and interpreted in the future?
- What naming conventions will be used?
- How will you approach versioning your data?
- How will you capture / create this documentation and metadata?
- How do you ensure the completeness of the captured data?

## Making Data Accessible

- Specify which data will be made openly available taking into consideration
  - What ethics and legal compliance issues do you have if any? Do you need consent for data preservation and sharing? Do you have to protect certain data? Is any data sensitive?
  - Do you think you might have Intellectual Property Rights issues? Have you considered ownership of the data, licensing, restrictions on use?
  - Do you think you will need to embargo any data?
- How will you make the data available? (consider the platforms you will use: databases, repositories, etc)
- What methods or software tools are needed to access the data? You should list where the software can be obtained. You should also document how to use the software to access the data. The documentation should be as complete as possible, including examples. If you distribute your system, include the access software and its documentation as part of any distribution.
- If there are any restrictions on accessibility, how will you provide access?

## Making Data Interoperable

- What standards (metadata vocabularies, formats, checklists) or methodologies will you use?
- How do you address data and model quality? What validation steps do you foresee?
- Will you use standardised vocabulary for all data types to allow inter-disciplinary interoperability?
- Where you can not use standardised vocabulary for all types of data, can you map to more commonly used ontologies?

## Making data Re-usable

- How will you licence your data to permit the widest re-use possible?
- When will the data be made available for re-use? Does this include an embargo period? (if yes, please detail why)
- Which data will be available for re-use during/after the project? For data that is not re-usable, please detail why
- What are your data quality assurance processes?
- How long do you expect your data to remain re-usable?



# PERSONALIZZABILE

# DMP online



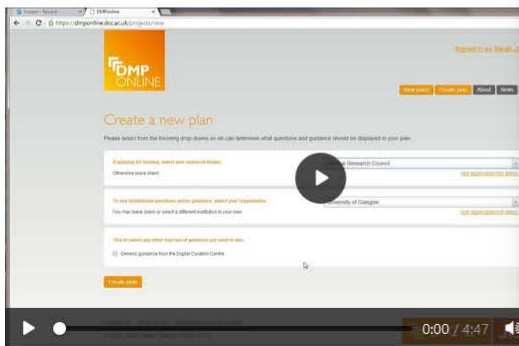
Home About Future plans Help Change language

<https://dmponline.dcc.ac.uk/>

Welcome.

DMPonline helps you to create, review, and share data management plans that meet institutional and funder requirements. It has been jointly developed by the Digital Curation Centre (DCC) and the University of California Curatorial Center (UC3).

Screencast on how to use DMPonline



Sign in

## Veteran tapes

Project Details Plan overview Write Plan Share Download

expand all | collapse all

13/13 answered

### Data Collection (2 / 2)

What data will you collect or create?

**B** *I*

The "Veteran tape " project will collect and generate different types of datasets:

Type of data	Volume	Format	Storage format
Video recordings	600 x 1Gb	.mkv	.mkv
Transcriptions	600 x 1500Kb	MS Word	.txt
Structured interview text	1 x 500Kb	MS word	.txt

For the video recordings the selected format is .mkv; the same .mkv format will be used for the long-term preservation .

Transcriptions will be written in MS Word and then stored as .txt files.

We checked the format compatibility against EASY File format <https://dans.knaw.nl/en/deposit/information-about-depositing-data/before-depositing/file-formats>

As the total volume of data is greater than 50Gb, DANS requires a fee for the storage. We are currently in touch with EASY to determine the costs of archiving.

Save

Guidance

Comments (1)

DCC DCC guidance

#### Guidance

Questions to consider:

- What type, format and volume of data?
- Do your chosen formats and software enable sharing and long-term access to the data?
- Are there any existing data that you can reuse?

Guidance:

Give a brief description of the data, including any existing data or third-party sources that will be used, in each case noting its content, type and coverage. Outline and justify your choice of format and consider the implications of data format and data volumes in terms of storage, backup and access.

Whose side are you on?

**DOVEVANO**  
**Le NUVOLE**  
REGIA MASSIMO FERRARI

Quando soffia il VENTO del CAMBIAMENTO  
c'è chi costruisce MURI  
e chi MULINI A VENTO



... e voi?

...grazie!